

**Self-stigma and vocational hope among a sample of students  
with disability at AL-Baath University in Syria**

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## Self-stigma and vocational hope among a sample of students with disability at AL-Baath University in Syria

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**Abstract:** The study aimed to determine the relationship between self-stigma and vocational hope among disabled university students. This study further examined whether levels of self-stigma and vocational hope reported by participants vary as a function of gender and type of disability. The sample (N=134) consisted of students with physical disability/ loss of a limb (N=20), paralysis/ mobility disability (N=23), visual impairment (N=32), hearing impairment (N=31), speech and communication disorder (N=28) who are studying at AL-Baath university in Homs, Syria. The following scales were applied: Internalized Stigma of Mental Illness (ISMI) and Work Hope Scale (WHS). Results indicated that the research sample reported a high level of self-stigma and low vocational hope. An analysis further showed a significant negative correlation between self-stigma and vocational hope ( $r = -0.862$ ,  $p < 0.05$ ) where higher self-stigma was associated with lower vocational hope. The results further indicated that male participants expressed a higher level of vocational hope and a lower level of self-stigma than female participants. Finally, results found that levels of self-stigma and vocational hope reported by participants did not vary as a function of type of disability.

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**Keywords:** Internalized stigma, self-stigma, students with disability, work hope, vocational hope

## 1. Introduction

School-to-work transition, preparing for future career and obtaining productive employment are basic components of successful transition to adulthood and a critical source of livelihood (Moussa, 2016). Although many individuals face multiple challenges in obtaining employment, those with disabilities often experience more barriers compared to their typically developed counterparts (ILO, 2013; Rohwerder, 2018; Rohwerder 2020; Lindsay et al., 2015; Moussa, 2016; WHO & The World Bank, 2011). In a similar vein, it is well cited that persons with disabilities have been traditionally excluded from the labour market, which resulted in social exclusion, deprivation and underrepresentation of this social category in various occupations and work fields in the society (Rusdiana et al., 2022; Waxmann, 2017; WHO and The World Bank, 2011). People with disability, thus, are more likely to experience much higher levels of unemployment than those of general population, throughout the world. Consistently, valuable evidence based on internationally comparable data shows that employment rates among people with disability are significantly lower than those of general population (Mizunoya & Mitra, 2012). The situation is, however, more difficult in developing countries, given that individuals with disability in these countries face greater acute barriers to access basic opportunities of education as well as employment than those in developed nations (e.g., Mizunoya & Mitra, 2012; Mizunoya, Yamasaki & Mitra, 2016). This topic, for this reason, received special attention in research on social inequalities and disability studies (e.g., Rusdiana et al., 2022; Waxmann, 2017; WHO and The World Bank, 2011) given that such underrepresentation of this cultural minority of individuals with disability indicates to violation of human rights and absence of social justice (Van Lar et al., 2019; Ellemers & Rink, 2016).

Rights of persons with disability to work have been the subject of much attention in the United Nations and other international organizations over a long period of time. Consistently, the United Nation Convention on the Rights of Persons with Disabilities (UNCRPD), with special regard to Article 27, (Bantekas, Pennilas, & Tromel, 2018; Liisberg, 2017) and the Sustainable Development Goals (SDGs) with particular mention to Goal 8 and Goal 10 (UN, 2015), advocated concerted action to protect the rights to empowerment and employment for persons with disabilities. The United Nations' 2030 Agenda for Sustainable Development, accordingly, called for promotion of inclusive economic growth, full and productive employment and decent work for all where persons with and without disabilities can enjoy full accessibility to the job market (Bantekas, Pennilas, & Tromel, 2018; Liisberg, 2017; UN, 2015). Thus, to realize the Sustainable Development Goals by 2030, more research is needed to explore factors that limit vs. enhance the opportunities of individuals with disability to effectively seek job and thus to find a productive work.

## **2. Theoretical background and research rationale**

The current research drew on the theoretical framework proposed by social psychology research and its tradition in social cognition and social psychology of disability regarding person-situation interaction (Dunn, 2015) to learn more about factors that may play a great role in employment of individuals with disability. To illustrate, social psychologists assume that study of human behavior (e.g., job seeking) should be interpreted as a function or outcome of both the person and the surrounding psychological situation or context—whether real, perceived or imagined—in which people find themselves. The focus, consistently, should always be on the 'person in the situation' and not only the person's qualities (e.g., disability,

intelligence...etc.) or the situation's features (e.g., discrimination, social exclusion, violence...etc.) that can exert influence on the person's behavior and emotional states. In sum, this perspective assumes that in spite of importance of personal as well as situational factors, it is actually their interaction that produces behavior (Dunn, 2015).

Existing literature declared that employment of individuals with disability can be influenced by a wide range of factors, of which some are related to the individual level, namely sex (Lindsay et al., 2017), specific diagnosis, time of development of impairment, and severity of the condition (Adioetomo et al., 2014; WHO & The World Bank, 2011); while others are more related to the surrounding context (e.g., prevalence of stigma in the community). Consistently, previous research illustrated that exposure to negative and stigmatizing attitudes and beliefs can be considered as one of the interpersonal and social factors that influence individuals' ability and motivation to seek job and to find employment (Cameron & Suarez, 2017; Ebuenyi et al., 2018; Lindsay et al., 2015; Lindsay et al., 2017; Moussa, 2016; Santuzzi, Martinez, & Keating, 2021).

Broadly, most of the literature on social psychology differentiated between two types of stigma that are public and self (e.g., Corrigan, Larson & Rüsch, 2009; Corrigan, Larson & Kuwabara, 2010; Corrigan & Rao, 2012; Corrigan & Watson, 2002). Public stigma reflects the perspective of the non-affected person and refers to the negative attitudes that member of public hold toward those with stigmatized feature (e.g., disability), while self-stigma is internal, within- or from the perspective of- the targeted or affected person and refers to the prejudice that stigmatized people hold about themselves (Moussa, 2022). Self-stigma, in this term, is considered as the individuals' reactions or responses to public or others stigma and occurs when targeted

individuals start believing in those socially endorsed stigmas, internalize them, behave accordingly, and finally suffer negative consequences as a result (Bathje & Pryor, 2011; Boyle, 2012; Boyle & Fearon, 2018; Corrigan et al., 2009; Del Rosal, et al., 2021; Hamidi et al., 2023; Ociskova, et al., 2015; Picco, et al., 2016).

In disability context, living in a cultural context filled with stigmatizing attitudes, makes individuals with disability more likely to internalize these stigmatizing beliefs, to believe that they are unworthy and unvalued due to their disability, and finally to behave in a way that is consistent with this stigma (Boyle, 2012; Boyle & Fearon, 2018; Del Rosal et al., 2021; Ebuenyi et al., 2018; Kong, et al., 2020; Lindsay et al., 2017; Lindsay et al., 2015; Link, 1987; Link & Phelan, 2001; Moussa, 2016; Pérez-Garín, Recio, Molero, 2021; Picco, et al., 2016; Szcze'sniak et al., 2018; Rana, Kausar & Khan, 2021). The internalization of such stigmatizing beliefs will results in a lot of socio-psychological consequences, including low self-esteem, poor self-efficacy and reduced sense of hope (Corrigan, et al., 2006; Del Rosal, et al., 2021; Dewedar, et al., 2018; Hamidi, et al., 2023; Liang & Zhang, 2023; Ociskova et al., 2015; Vrbova, et al., 2017; Yanos et al., 2008). Self-stigma may, further, undermine confidence in achieving life goals and thus result in lossing of important rightfull life opportunities such as getting a job, living independently, and developing and maintaining meaningful relationships (Alonso et al., 2009; Brohan et al., 2010a; Corrigan and Watson, 2002; Krajewski et al., 2013; Wahl, 1999; Yanos et al., 2010). Valuable theoretical perspective that clearly explains the deleterious outcomes of self-stigma is 'the why try effect'. According to this model, individuals apply the stereotypes of their condition (e.g., their disability) to themselves and feel unworthy or

incapable to pursue their personal goals (Corrigan et al., 2009; Corrigan et al., 2016).

However, despite presence of a growing body of literature regarding stigma negative impact, findings are inconsistent when it comes to the association between stigma and employment outcome. While some studies found no associations between employment and stigma (e.g., Ertugrul & Ulu, 2004; Lundberg et al., 2009; Szcześniak et al., 2018; Switaj et al., 2009; Thornicroft et al., 2009), other studies found that unemployment was higher among individuals who endorse stigma (Alonso et al., 2009; Brohan et al., 2010a; Krajewski et al., 2013; Yanos et al., 2010). Consistently, it has been found that self-stigma may contribute to the higher rate of people with disability not actively seeking job (Alonso et al., 2009; Wahl, 1999). Given that previous research on relation between stigma and employment outcomes has inconsistent findings, there may be a need for further research to clarify this inconsistency. An alternative approach that has not previously been clearly investigated may be to explore the association between self-stigma and vocational hope among college students with disability. Elucidating this relation may lead to a better understanding of why some individuals avoid forming employment goals or avoid seeking employment particularly in the initial stage of becoming interested in employment and in seeking employment during college age.

In fact, focusing on hope is very important because a fundamental amount of research repeatedly cited that hope is negatively associated with stigma and discrimination experiences (e.g., Corrigan, et al., 2006; Del Rosal, et al., 2021; Dewedar, et al., 2018; Hamidi, et al., 2023; Liang & Zhang, 2023; Ociskova et al., 2015; Thompson, Her, & Nitzarim, 2014; Vrbova, et al., 2017; Yanos et al., 2008). In this term, low level of hope (i.e.,

hopelessness) has been considered as one of the most deleterious psychosocial outcomes of exposure to- and internalizing of- stigma. Previous research also illustrated that high level of hope can act as a protective factor against the negative impact of stigma and more specifically self-stigma (e.g., Ternes, 2018; Yanos et al., 2011), that can serve as a basic barrier to prepare for future career, to achieve successful transition to work and to obtain productive employment, as already noted in this academic paper (Cameron & Suarez, 2017; Ebuenyi et al., 2018; Lindsay et al., 2015; Lindsay et al., 2017; Moussa, 2016; Santuzzi, Martinez & Keating, 2021).

Importance of studying hope is, moreover, derived from the fact that this core psychosocial construct of positive psychology can be applied to work and vocational issues, and has a significant role in workforce development and vocational psychology (Drucker, 2012; Juntunen & Wettersten, 2006; Thompson, Her & Nitzarim, 2014; Thompson et al., 2017; Yakushko & Sokolova, 2010). Hope concept from this perspective contributes to the pursuit and attainment of meaningful work, and can play a vital role in increasing employment opportunities for diverse populations, especially those 'historically difficult-to-employ individuals', including member of underrepresented backgrounds such as low income or deprived populations, minorities and individuals with disability (Thompson, Her, & Nitzarim, 2014; Juntunen & Wettersten, 2006). In this term, Juntunen Wettersten (2006) considered work hope (WH) as a crucial psychological resource and defined it as "a positive motivational state that is directed at work and work-related goals and is composed of the presence of work-related goals and both the agency and the pathways for achieving those goals" (Juntunen & Wettersten, 2006, p. 97).

This definition of vocational hope focuses on the underlying cognitive processes that provide individuals or groups with a motivational state to engage in work-relevant activities, including, setting clear work goals (goals), showing willingness, energy or drive to pursue those goals (agency), and generating plans or strategies for achieving or realizing those goals (pathways) (Juntunen & Wettersten, 2006). Although these three components (i.e., goals, pathways and agency) are interrelated, no component alone can define vocational hope.

However, the current research argues that stigma can be considered as barrier to work hope and may have the potential to impact the aforementioned cognitive processes underlying work hope. Consistently, research on stigma cited that individuals who are exposed to stigmatizing messages from surrounding social context and who internalize these negative stigma attitudes are more likely to devalue themselves and to evaluate themselves as not competent or capable to achieve their goals successfully and thus they may show an increase in hopeless behavior and thought processes (Corrigan et al., 2016). When applying this statement, suggested by stigma research, on the theoretical framework of vocational hope (Juntunen & Wettersten, 2006), it could be concluded that individuals who internalize public stigma may have lower level of vocational hope. They may accordingly disengage from work-relevant activities and experience a sense of limited future possibilities that, in turn, may result in fewer or no goals. Further, stigmatizing attitudes may block routes or pathways individuals had envisioned, control their ability to identify other strategies or plans to achieve their goals, and decrease their willingness or energy to take action to obtain those goals.

Of note, the specific application of hope theory to work and work goals of youth with disability has as yet received limited attention. Similarly, there

is also lack of research on the relation between self-stigma and vocational hope of youths with disability, as already noted. For these reasons, the current academic work draws on previous literature studying the term of hope in general with its association to self-stigma among individuals with disability to inform and increase understanding of this topic.

Further, the present research, in fact, is seeking to bridge the already noted gap existing in research and literature, by exploring level of vocational hope as measured by work hope scale (WHS) among a sample of university students who have disability. Researcher decision to focus on this sample comes in line with previous literature that stressed importance of sense of hopefulness or hopelessness to the processes of career development of college age youth (Thompson, Her, & Nitzarim, 2014; Yakushko & Sokolova, 2010). While vocational hope may have significant role in the development of career adaptability and educational as well as vocational goals, as already illustrated, this vital component is highly threatened by stigma and discrimination experiences that individuals from underrepresented backgrounds confront in their daily live (Thompson, Her, & Nitzarim, 2014). As this case also applies to the context of higher education, the current research aims also to explore level of self-stigma reported by university students with disability as measured by ISMI scale. Accordingly, examining association between self-stigma and vocational hope is the central goal guiding this research.

The present academic research is applied in Syria. Syrian Arab Republic as one of the developing countries ratified the UN Convention on the rights of persons with disabilities (UNCRPD) and it's Optional Protocol. This shows that Syria is striving to implement the UN Convention as effectively and efficiently as possible and is committing to create inclusive societies where everyone has equal opportunities in education and work.

However, in spite of governmental efforts to support right of Syrian citizens to access education and the world of work, the situation is still highly difficult due to the war in Syria that began in 2011 and lasted for years. In fact, this war in Syria resulted in a crucial setback in living conditions, increased vulnerability among large sections of the society and higher prevalence of impairments and war-born injuries that constitute major problems in health, social and economic domain. It is not just the war that caused rise in rates of disability but also the lack of healthcare and other services. All of that has resulted in many children, youth, adults and elderly acquiring a disability they wouldn't have otherwise. The tightening of sanctions imposed on the country has prevented it from importing essential requirements and vital materials and has impacted negatively all vital sectors of the economy including medicine, education, energy, communications, agriculture, and industry. This lack of resources impeded the country capacity to cope with emergency disasters, such as the destructive earthquake that hit Syria and Turkiye in February in 2023, which has led to the destruction of thousands of homes, mass injuries, the death of a lot of people, and higher rates of disability. Impact of oppressive sanctions is directly reflected on the horrifying deterioration of humanitarian and living situation of the population in the country, and complicated the country's capacity to secure an appropriate social environment for the support of all individuals, including those with and without disabilities, within the standards and conditions set by the relevant international and local laws. Today's much higher numbers of people with disability living in such complex and miserable conditions mean that this impaired population may have a hopeless perspective on themselves, perceive their future as uncertain and the work as unachievable or impossible goal due to limited opportunities and economic crisis currently impacting the country

and wider region. This negative and hopeless perspective held by the impaired population may also reflect self-stigma resulted from societal stigma endorsing the belief that individuals with disability are powerless, helpless, must be cared for by non-disabled individuals and constitute an ending burden on the Syrian society that undergoes multiple crisis and lacks needed resources. It is therefore noteworthy to focus on this sample of individuals with disability in Syria and to study factors that may help to empower them and enhance their inclusion in the larger society. In this term, finding job and secure employment does emerge as an essential factor for the social participation, inclusion and empowerment of individuals with disability and has both human rights justifications and socio-economic advantages for affected people, larger society and governments.

In spite of the high rates of disability and difficult circumstances that Syria experiences, as already mentioned, research pertaining factors that facilitate vs. hinder employment of individuals with disability is limited or underexplored. The same can be said concerning the basic goal guiding the current research. More specifically, there is no study on the relation between self-stigma and vocational hope among university students with disability in Syria, according to the researcher's knowledge. Therefore, this research study aims to increase this knowledge in order to allow for the development of support strategies needed to enhance the employment chances of persons with disabilities in Syria. This research work is further interested in studying whether levels of self-stigma and vocational hope, as reported by university students with disability, differ by sex, and type of disability.

### **3. Research Questions and Hypotheses**

The present research is focusing on the following questions and hypotheses:

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1. How do participants (i.e., university students with disability) evaluate their own levels of self-stigma?
2. How do participants (i.e., university students with disability) evaluate their own levels of vocational-hope?
3. What is the relation between self-stigma and vocational hope among university students with disability? It is hypothesized that self-stigma is negatively associated with vocational hope.
4. Does level of self-stigma as reported by members of research sample differ by virtue of gender? It is hypothesized that male and female participants do not differ significantly in this regard.
5. Does level of vocational hope as reported by members of research sample differ by virtue of gender? It is hypothesized that male and female participants do not differ significantly in this regard.
6. Does level of self-stigma as reported by members of research sample differ by virtue of type of disability they have? It is hypothesized that participants do not differ significantly in this regard.
7. Does level of vocational Hope as reported by members of research sample differ by virtue of type of disability they have? It is hypothesized that participants do not differ significantly in this regard.

#### **4. Method & Data collection**

**Research design:** A quantitative descriptive research design was utilized in the present study.

#### **Data analysis**

All Statistical analyses were carried out using SPSS (Statistical Package for the Social Sciences). Pearson correlation coefficients, One-way analysis of

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variance (ANOVA), and t-test for independent samples were applied in analyzing the data. In order to find differences in Self stigma and vocational hope, researcher conducted independent t test for differences in mean of two groups (e.g., gender) and One Way ANOVA for more than two groups (e.g., type of disability).

### **Process of Data Collection**

Data were collected over a period of about fifteen months (between February 2022 and 30 May 2023). While specific data base or statistics regarding the overall number of students with disability at AL-Baath university in Homs ( $n= 247$ ) were collected over a period of about five months, data for pilot study ( $n=30$ ) were collected over a period of about two months and finally data for actual study ( $n= 134$ ) were collected over a period of about eight months. Further details regarding process of data collection is presented below.

In the first phase and after receiving approval for data collection from the President of AL-Baath University and his assistant who is responsible for scientific research affairs, researcher began independently to collect needed data from the corresponding institutions (i.e., various faculties at the University). However, this process required a lot of time (i.e., five months) and effort from the researcher due to lack of specific data base or statistics regarding the overall number of students with disability who are studying at the university. To illustrate, participants were recruited through a process in which the researcher contacted dean and employers from each faculty and attended a meeting at each faculty to explain the purpose of the study, its procedures and its eligibility criteria. The employers at each faculty in turn needed further time to prepare this data in order to provide the researcher with

needed information regarding research sample that is targeting university students with disability, including their name, date of birth, gender, academic specialization and contact information.

The researcher then contacted students via telephone and asked for their wish to participate in the study. When explaining the study to potential participants at each institution, the researcher also explained policies regarding anonymity, confidentiality, and consent of a representative. Subsequently, the researcher met participants at appointed times, obtained their written informed consent for taking part in the study, and implemented research instruments (i.e., ISMI & WHS) using the interview questionnaire sheet. Interview was implemented face to face with every participant on an individual basis for keeping data privacy. Each interview lasted for about 30-40 minutes according to participant's attention and willing to cooperate or talk with the researcher. All participants were informed about their ability to withdrawal from the study at any time without any consequences and that their responses would be kept confidential and would be used only for the purpose of the study. The participants were not offered any incentives for their participation.

## **Participants**

A total of 247 young individuals with disability who were studying at Al-Baath University (during research recruitment period that is 2022-2023) were approached as the target population. Out of these, (164) participants were selected using a simple random sampling method and following an inclusion criteria. Inclusion criteria for participants were as follows: (1) being able and willing to provide written consent to participate in the research; (2) being student at AL-Baath University; (2) being with disability that does not

prevent from studying at the university or from understanding and filling out the research tools; (3) age: between 18 and 29 years old; (4) gender: being male or female. Table (1) presents more details about characteristics of the main study sample ( $N=134$ ) (i.e., after excluding pilot-study participants/ $N=30$ ).

Table (1): Characteristics of the sample of the main study ( $N=134$ )

Sample characteristics							
Sample characteristics	Sex	Male		Female			Total
		63		71			134
Type of disability	Paralysis/ Mobility disability	Physical disability/ loss of a limb	Speech disorders	Visual impairment	Hearing Impairment	Total	134
	23	20	28	32	31		

## 5. Research Tools

### 5. 1. Demographic questionnaire

Participants were asked to report their sex, and type of disability.

### 5. 2. Internalized Stigma of Mental Illness Inventory (ISMI)

The (ISMI) scale is used to measure self-stigma (Ritsher, Otilingam & Grajales, 2003) from the perspective of the stigmatized individuals. It can be self-rated or interviewers' based. This instrument is a 29-item divided into five subscales namely: 1. Alienation (six items) measures individuals' subjective experiences of not being valuable members of the society; 2. Stereotype endorsement (seven items) assesses the extent to which a person accepts, agrees with and internalizes common stereotypes about disabilities; 3. Discrimination experience (five items) assesses individuals' perceptions of others' discriminative treatment and attitudes against them due to their

disability; 4. Social withdrawal (six items) measures aspects of social withdrawal like excluding the self from social events and/or situations due to disability; and 5. Stigma resistance, (five reverse coded items), that assesses respondents' ability to resist internalizing disability stigma. Items of ISMI is scored on a four point Likert type scale of agreement (1=strongly disagree, 2=disagree, 3=agree, and 4=strongly agree). The total ISMI scale score is obtained by adding the scores received from these five subscales; it ranges from 29 to 116; so that a higher score obtained from the scale reflects a higher level- or stronger experience- of self-stigma (Olçun & Altun, 2017). The ISMI scale was developed to assess mental illness self-stigma. For the objective of the current research, instrument was adapted using the term 'disability' instead of 'mental illness'. Previous research used this tool also substituted the term 'mental illness' with a target term (e.g., Physical disability, rheumatoid arthritis, epilepsy, and inflammatory bowel disease) (Corker, et al., 2016; Forsgren, et al., 2013; Milačić-Vidojević, et al., 2019; Taft, Ballou & Keefer, 2013).

The ISMI-29 has been widely used around the world (Boyd et al., 2014; Brohan et al., 2010a; Livingston & Boyd, 2010). This scale has, further, excellent psychometric properties. The internal consistency of the original version was strong ( $\alpha = 0.90$ ) and the test-retest reliability coefficient was high ( $r = 0.92$ ) (Ritsher, Otilingam & Grajales, 2003). In the present research, pilot study conducted on a sample of university students with disability in Syria showed that the Syrian Arabic version of ISMI scale has good psychometric properties. Additional information about the validity and reliability can be found in section of "**Evaluation of psychometric properties of the scales.**"

### 5. 3. Work Hope Scale (WHS)

Vocational hope of university students with disability has been measured using the Work Hope Scale (WHS) which contains 24 items. In a view of Snyder and colleagues' (1991) conceptualization of hope, this scale includes three subscales assessing a sense of hope about work situation. The first subscale is 'goals' (8 items) which measures knowledge or personal work related goals, the second subscale is 'pathways' that assess ideas or specific ways individuals have about achieving those goals (8 items) and the third subscale is 'agency' which assesses motivation, will-power or energy directed toward realizing those work related goals (8 items). Participants were asked to rate each item on a 7-point Likert scale ranging from 1(strongly disagree) to 7(strongly agree). Total score of WHS can be calculated by combining the goals, pathways, and agency subscales together. Accordingly, total score of WHS is ranging from 24 to 168 with higher scores indicating greater levels of vocational hope. The WHS includes nine negatively valanced items requiring reverse coding for full-scale scoring.

Juntunen and Wettersten (2006) found excellent internal consistency reliability for the WHS total scale ( $\alpha=.93$ ), as well as subscales of Goals ( $\alpha = .81$ ), Agency ( $\alpha = .68$ ), and Pathways ( $\alpha = .87$ ). Further, this scale has excellent two weeks test-retest reliability ( $\alpha = .90$ ). WHS also characterized with convergent validity as it is correlated with career decision making, optimism, and vocational identity (Juntunen & Wettersten, 2006). In the current research, pilot study conducted on a sample of university students with disability in Syria showed that the Syrian Arabic version of WHS has good psychometric properties. More details about the validity and reliability can be found in section of "**Evaluation of psychometric properties of the scales.**"

## **6. Translation of the Instruments:**

Procedures regarding language validity of the ISMI & WHS scales were conducted in the first phase of the study. These instruments that were initially developed in English were translated from English into Arabic language independently by the researcher (who is also author of the present study) and then the first form of translation was created. Thereafter, the reverse translation of this form from Arabic into English was performed by two specialists fluent in both languages (English & Arabic) who were not shown the original English version of the scales before. The final form of the reverse translation was made, so there was an agreement between the two reverse translations. Differences were reconciled by comparing the original versions of the instruments with the final form of the reverse translation to make the necessary corrections, on this occasion a good fit between them was noticed.

The Arabic version of the scale was presented to a group of 10 experts who hold doctoral degree from different fields (psychological counseling, psychology, psychiatry, special education) to make sure that the translations were accurate and that the content was the same, an agreement was reached on their wording, and the final version of the scale was shaped with the recommendations from the experts.

## **7. Ethical considerations to protect human rights of the research participants:**

Previous research assured importance of working actively to elicit views from individuals with disability themselves when research focuses on matters that influence their life (Moussa, 2016). Therefore, researcher decided to use interview to collect data. However, interview can entail a lot of

potential difficulties that may occur while seeking and hearing views of students with disabilities (e.g., language difficulties, communication challenges) which, in turn, can present the researchers with several methodological challenges (Lewis & Porter, 2004; Moussa, 2016; Stalker, 1998). For this reason, interview should be done by professional and qualified interviewers who have at least a bachelor's level of academic degree and who have experience in working in the field of disability (Moussa, 2016; Tasse', et al., 2005). In the present research all interviews were carried out by a researcher who holds doctoral degree (PhD), has conducted research on inclusive schooling as well as school to work transition of students with disability and has followed multiple internships to enrich experience and knowledge in treating the sample of children and adolescents who have multiple types of disabilities in Germany.

Given that research problem and the utilized tools (e.g., ISMI) are treating a sensitive side of the human psyche and thus may trigger past stressful experiences and painful memories, it was expected that participants may become confused and overwhelmed with some negative psychological outcomes and negative emotions (e.g., sadness, anxiety, fear of the future, anger, shame or helplessness) during interviews. To reduce such effects researcher informed participants about the possibility of experiencing strong negative or positive emotions during and after filling in the scales. Further, participants were offered chance to talk about their feelings with the researcher, who was ready to provide needed psychological support. Researcher also informed participants about their ability to request information at any time in case they confused or did not understand anything about the study. Finally, participants were informed about their ability to withdrawal from the study at any moment and that their responses would be

kept confidential and would be used only for the purpose of the study. Researcher also obtained a written informed consent from every participant prior to interview.

## **8. Evaluation of psychometric properties of the scales:**

### **8.1. Pilot Study:**

In quantitative research, instrument to collect data is a most crucial part, to raise the credibility of research findings. However, to get a good result of validity and reliability value of the instruments, face validity and pilot study have to be carried out. After getting good feedback from related expertise regarding to face validity of the instruments, the pilot test was conducted by determining 30 respondents who were selected randomly after obtaining their written consent to participate in the study. Those participants were excluded later from the actual study sample. All 30 respondents were asked to answer both measures (i.e., ISMI and WHS), and in the meantime the time has been taken to determine the time period the respondent needed to answer the whole instruments. Respondents were also required to provide any pertaining comments and feedback, marking spelling errors, grammatical clarity, vague sentences, and any related suggestions to enhance the quality of the instruments. The pilot study proved the applicability of the study tools.

### **8.2. Internal Consistency:**

The internal consistencies of the scale and subscales were assessed using the item-total correlations. After applying the scales (i.e., ISMI & WHS) to a pilot sample consisting of (30) participants, an analysis of correlation (Pearson's R correlation coefficient) between the individual's score on each item of the scale and the total score of the scale as a whole was calculated using the statistical program (SPSS). See table (2) below which

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shows the Item-Total Correlations Coefficients of the Arabian version of the ISMI & WHS Scales and Subscales. Pearson correlation analysis was also applied to determine correlation between sub-scales of each measurement used in the present research study. See table (3).

Table 2. Item-Total Correlations Coefficients of the Arabic ISMI & WHS Scales and Subscales

Self-Stigma Scale				Work Hope Scale			
Sub-scales	Items	Item-subscale score correlations (r)*	Item-total score correlations (r)*	Sub-scales	Items	Item-subscale score correlations (r)*	Item-total score correlations (r)*
Alienation	1	0.847**	0.810**	Agency	2	0.807**	0.778**
	2	0.840**	0.813**		5	0.695**	0.772**
	3	0.880**	0.910**		8	0.708**	0.580**
	4	0.772**	0.764**		11	0.802**	0.785**
	5	0.839**	0.802**		12	0.560**	0.550**
	6	0.705**	0.661**		14	0.610**	0.523**
	Subscale-scale total score correlation		0.979**		Subscale-scale total score correlation		
Stereotype endorsement	1	0.816**	0.802**	Pathways	1	0.673**	0.566**
	2	0.667**	0.592**		3	0.516**	0.409*
	3	0.841**	0.822**		6	0.550**	0.565**
	4	0.697**	0.756**		9	0.744**	0.726**
	5	0.837**	0.866**		10	0.547**	0.602**
	6	0.758**	0.700**		Subscale-scale total score correlation		
	7	0.847**	0.820**		0.958**		
Discrimination	Subscale-scale total score correlation		0.983**				
	1	0.734**	0.780**				
	2	0.794**	0.786**				
	3	0.783**	0.666**				
	4	0.821**	0.711**				
	5	0.749**	0.801**				

Self-Stigma Scale				Work Hope Scale			
Sub-scales	Items	Item-subscale score correlations (r)*	Item-total score correlations (r)*	Sub-scales	Items	Item-subscale score correlations (r)*	Item-total score correlations (r)*
Withdrawal	Subscale-scale total score correlation		0.965**	Subscale-scale total score correlation	15	0.601**	0.548**
	1	0.845**	0.806**		19	0.634**	0.598**
	2	0.907**	0.878**		22	0.697**	0.719**
	3	0.713**	0.773**		Subscale-scale total score correlation		0.951**
	4	0.764**	0.786**		4	0.656**	0.537**
	5	0.614**	0.534**		7	0.837**	0.812**
	6	0.823**	0.750**		13	0.750**	0.763**
Sigma resistance	Subscale-scale total score correlation		0.969**	Subscale-scale total score correlation	18	0.822**	0.792**
	1	0.674**	-0.528**		20	0.749**	0.582**
	2	0.678**	-0.642**		23	0.674**	0.610**
	3	0.750**	-0.728**		24	0.513**	0.537**
	4	0.711**	-0.720**		Subscale-scale total score correlation		0.928**
	5	0.672**	-0.546**				

\*Correlation is significant at the 0.05 level (2-tailed).    \*\* Correlation is significant at the 0.01 level (2-tailed).

**The item-total score correlation** explains the relationship between the scores obtained from the items of the measurement tool and the total score of the scale.

**The Item-subscale score correlation** explains the relationship between scores obtained from the items of the measurement tool and the total score of the subscale.

**Subscale-scale total score correlation** explains the correlation coefficient between each dimension of the scale and the overall scale.

Table (3): Correlation between sub-scales of measurements (ISMI) & (WHS)

(3.1) Correlation between sub-scales of the ISMI scale					
Sub-scales	Alienation	Stereotype endorsement	Discrimination	withdrawal	Stigma resistance
Alienation	1				
Stereotype endorsement	0.960**	1			
Discrimination	0.934**	0.972**	1		
Withdrawal	0.948**	0.925**	0.894**	1	
Stigma resistance	-0.935**	-0.940**	-0.927**	-0.883**	1

  

(3.2) Correlation between sub-scales of the WHS scale			
Sub-scales	Agency	Pathways	Goals
Agency	1		
Pathways	0.983**	1	
Goals	0.974**	0.974**	1

\* Significant at the 0.05 level; \*\* Significant at the 0.01 level.

Above tables show that correlation coefficients of the items with the total score of the overall scales and subscales are significant at the 0.01 level and the 0.05 level.

### 8.3. Discriminant validity

Discriminant validity refers to a scale's ability to distinguish between two or more individuals/groups with known differences (e.g., who score high vs. low on the same instruments). To determine the distinctiveness of the scale items, a comparison was made with the upper-lower group technique using independent two sample t-test. According to this method every participant in the sample of the pilot study received a total score after completing the both instruments (i.e., ISMI and WHS). After dividing the total score for the used

instruments into quartiles, a comparison was made with "the upper-lower group technique" using independent two sample t-test, and the presence of significant differences between the two extreme groups was analyzed in order to determine the distinctiveness of the scales and subscales. Result of the analysis shows that there is a significant difference between the upper and lower groups for the total scale as well as subscales (see table 4). Meaning that, these instruments have good discrimination power (i.e., characterized with discriminant validity).

Table (4) Discriminant validity of Self Stigma and Work Hope scale and subscales

T. 4. Discriminant validity of the Self Stigma (ISMI) Scale and subscales								
	Lower group (N=7)		Upper group (N=7)		T-test	Degree of freedom	Significance	Decision
	M	SD	M	SD				
Alienation	11.57	1.13	21.71	1.11	16.892	28	0.000	Significant
Stereotype endorsement	13.28	1.60	25.42	1.27	15.694	28	0.000	Significant
Discrimination	9.00	0.81	17.71	0.95	18.392	28	0.000	Significant
Withdrawal	10.57	1.51	21.42	0.78	16.854	28	0.000	Significant
Stigma resistance	12.85	1.06	20.57	0.78	15.376	28	0.000	Significant
Total (ISMI)	65.28	3.90	99.28	2.36	19.720	28	0.000	Significant

T. 4. Discriminant validity of the Work Hope Scale and subscales

T. 4. Discriminant validity of the Work Hope Scale and subscales								
	Lower group (N=7)		Upper group (N=7)		T-test	Degree of freedom	Significance	Decision
	M	SD	M	SD				
Agency	31.00	2.88	49.14	3.33	10.877	28	0.000	Significant
Pathways	29.42	2.14	44.57	2.99	11.594	28	0.000	Significant
Goals	22.71	2.91	38.85	2.47	11.395	28	0.000	Significant
Total (WHS)	84.00	8.64	131.85	8.66	10.345	28	0.000	Significant

#### 8.4. Cronbach's alpha and Split-half reliability

The reliability of the Arabic version of the WHS and ISMI scales was also evaluated by testing the internal consistency of the items using statistic called Cronbach's alpha and Split-half reliability. Results of analysis showed that the internal consistency indices for the total WHS scale were (0.875, 0.851). However, reliability analysis for the three WHS subscales, were as follows: Agency (0.619, 0.596); pathways (0.576, 0.365); goals (0.778, 0.743). See table (5)

With reference to ISMI Scale, the Cronbach's alpha coefficients and Split-half reliability were (0.743, 0.506) for the total scale. Results further showed that internal consistency indices for the self-stigma five subscales were as follows: Alienation (0.801, 0.684); stereotype endorsement (0.790, 0.795); discrimination experience (0.799, 0.747); social withdrawal (0.794, 0.720); and stigma resistance (0.774, 0.793). See table (5).

In a view of these results, it could be concluded that the overall scale and each subscale in the Arabic version of the ISMI and WHS are characterized with high reliability and thus are valid tools for assessing Self stigma and vocational hope in individuals with disability.

Table (5) Cronbach's alpha and Split-half reliability analysis of scale and sub-scale scores

(ISMI) Self-Stigma Scale			(WHS) Work Hope Scale		
Subscales	Cronbach's alpha Coefficient	Split-half reliability Coefficient	Subscales	Cronbach's alpha Coefficient	Split-half reliability Coefficient
Alienation	0.801	0.684	Agency	0.619	0.596
Stereotype endorsement	0.790	0.795			
Discrimination	0.799	0.747	Pathways	0.576	0.365
Withdrawal	0.794	0.720			
Stigma resistance	0.774	0.793	Goals	0.778	0.743
Total Scale	0.743	0.506			
			Total Scale	0.875	0.851

## 9. Main study

After explaining the aims of the study and establishing trusting relationship with each participant, a written consent was obtained according to the willingness for participation in the study. The form of the study tools was also explained to participants ( $n= 134$ ) who were reassured that their responses will be confidential and used only for the purpose of the study. Tools of the study were implemented by the researcher using the interview questionnaire sheet to determine relation between self-stigma and vocational hope. Each interview was implemented on an individual basis and lasted for about 30-40 minutes according to participants' attention and capacity to cooperate or talk with the researcher. Data of actual study were collected over a period of about eight months.

## 10. Results of the main study

### 10.1. Level of self-stigma among university students with disability

Participants' level of self-stigma was determined through their total score on the ISMI. Total scores ranged from 29 to 116 points with higher scores indicating greater level of self-stigma. The mean score for the ISMI based on sample responses was  $M=79.10$  ( $SD=13.41$ ) of 116. Meaning that, university students with disability participating in this research reported high level of self-stigma. See table (6).

### 10.2. Level of vocational hope among university students with disability:

Participants' level of vocational hope was defined using their total score on the WHS. Total scores ranged from 24 to 168 points with higher scores reflecting higher vocational hope. The mean score for the WHS based on sample response was  $M= 80.77$  ( $SD=5.12$ ) of 168. Namely, university

students with disability participating in this research reported low level of vocational hope. See table (6).

Table (6): Mean Scores and Standard Deviation (SD) on ISMI scale and Work Hope Scale for research sample

	Total Sample N= 134	Type of disability					Gender	
		Visual impairment N= 32	Hearing Impairment N= 31	Speech disorder N= 28	paralysis / Mobility N= 23	loss of a limb N= 20	Male N= 63	Female N= 71
ISMI scale	M=79. 10 SD= 13.41	M=76 SD= 15.041	M=78.19 SD= 14.905	M=79.07 SD= 16.112	M=82.20 SD= 16.488	M=81.85 SD= 17,424	M=73,95 SD= 14,622	M=83,67 SD= 15,466
WH scale	M=80,77 SD= 5.12	M=81,65 SD= 6.837	M=81,12 SD= 7.098	M=80.75 SD= 6.204	M=79.69 SD= 6.553	M=80.05 SD= 6.824	M=82.57 SD= 5.991	M=79.16 SD= 6.849

### 10.3. Relation between self-stigma and vocational hope among university students with disability:

In order to examine the relations between self-stigma (total and subscales) and the vocational hope (total scale), Pearson correlations were performed. As presented in Table (7), the results of the analyses revealed significant negative (reverse) correlation between the total mean scores of ISMI (an overall ISMI score as well as all the subscales with the exception of stigma resistance subscale) and the Vocational Hope Scale ( $r= -0.862$ ,  $p<0.05$ ). Meaning that, higher levels of self-stigma are linked to decreased levels of vocational hope. In other words, the higher the self-stigma in the students with disability, the lower was their level of vocational hope as measured by (WHS). Turning to the subscales, four subscale scores of ISMI were significantly and negatively correlated with vocational hope. More specifically, results showed that decreased levels of vocational hope are linked to higher levels of Alienation ( $r= -0.784^{**}$ ,  $p<0.05$ ), Stereotype

Endorsement ( $r = -0.753^{**}$ ,  $p < 0.05$ ), Discrimination Experience ( $r = -0.780^{**}$ ,  $p < 0.05$ ) and Social Withdrawal ( $r = -0.773^{**}$ ,  $p < 0.05$ ). Except for score on the stigma resistance subscale, a significant positive correlation was found between the stigma resistance subscale mean score of ISMI and the total mean score of the Vocational Hope Scale ( $r = +0.761$ ,  $p < 0.05$ ).

Table (7): The correlation coefficients between participants' scores on Self Stigma scale/subscales and Work Hope Scale

ISMI scale and subscales		Alienation	Stereotype Endorsement	Discrimination Experience	Social Withdrawal	Stigma Resistance	Total ISMI scale
(WHS) scale	Correlation Pearson's coefficient	- 0.784**	- 0.753**	- 0.780**	- 0.773**	+0.761**	- 0.862**
	P-value. sig.	0.000	0.000	0.000	0.000	0.000	0.000

#### 10.4. Difference between students with disability in their level of self-stigma

To investigate difference in level of self-stigma (total and subscales) according to type of disability of the study sample (i.e., Visual impairment, Hearing Impairment, Speech disorders, paralysis, loss of a limb), the researcher conducted one way analysis of variance (one-way ANOVA). As can be seen in table (8), the results showed that there is no statistical significant difference between groups of university students with disability in their level of self-stigma, as the sig. (all p-values of subscales & total scale) is larger than 0.05, ( $F = 0.716$ ,  $p = 0.582$ ).

Similarly, the results of one-way ANOVA also showed no statistically significant difference in the self-stigma sub-scales scores of students with disability.

Results for the ISMI five subscales were as follows: Alienation [ $F(4, 129) = 0.777, p>0.05$ ]; stereotype Endorsement [ $F(4,129) = 0.465, p>0.05$ ]; discrimination Experience ( $F(4, 129) = 0.657, p>0.05$ ); social withdrawal [ $F(4,129) = 0.666, p>0.05$ ], and the stigma resistance subscales [ $F(4, 129) = 1.350, p=.000>0.05$ ]. See table 8

Table (8): Comparisons of the self-stigma Score across groups with Different Types of disability (N=134)

ISMI Subscales	Source of variance	Sum of Squares	Degree of freedom	Mean Square	F	Sig.	Decision			
Alienation	Between Groups	58.016	4	14.504	0.777	0.542	Not significant			
	Within Groups	2408.790	129							
	Total	2466.806	133							
Stereotype Endorsement	Between Groups	57.324	4	14.331	0.465	0.761	Not significant			
	Within Groups	3976.773	129	30.828						
	Total	4034.097	133							
Discrimination Experience	Between Groups	46.007	4	11.502	0.657	0.623	Not significant			
	Within Groups	2258.799	129	17.510						
	Total	2304.806	133							
Social Withdrawal	Between Groups	61.793	4	15.448	0.666	0.617	Not significant			
	Within Groups	2993.587	129	23.206						
	Total	3055.381	133							
Stigma Resistance	Between Groups	6.971	4	1.734	1.350	0.255	Not significant			
	Within Groups	166.522	129	1.291						
	Total	173.493	133							
Total ISMI Scale	Between Groups	720.422	4	180.105	0.716	0.582	Not significant			
	Within Groups	32438.115	129	251.458						
	Total	33158.537	133							

## 10.5. Differences in self-stigma with respect to students' gender

To examine the differences in self-stigma with respect to students' gender, an independent samples t-test was performed as groups sizes were unequal ( $N_1 \neq N_2$ ). The results of the test were found to be significant ( $t = 3.726$ ,  $p = 0.000$ ). However, the independent sample t-test revealed a low, albeit significant difference between genders on self-stigma scores. As can be seen in table (9), females have higher level of self-stigma than males given that the means of female students experiencing self-stigma ( $M = 83.676$ ,  $SD = 15.466$ ) were greater than the means of male students ( $M = 73.952$ ,  $SD = 14.622$ ). Table 9 shows significant difference between genders on self-stigma scores, given that the sig. value of scale and subscales scores are lower than 0.05.

Table (9): Mean Scores and Standard Deviation (SD) on ISMI scale and subscales for males and females

Sub-scales of ISMI Scale	Male N= 63		Female N= 71		T	Sig.	Decision
	Mean	SD	Mean	SD			
Alienation	16.365	4.225	18.775	4.082	3.555	0.001	Significant
Stereotype Endorsement	15.571	5.447	18.423	5.242	3.085	0.002	Significant
Discrimination Experience	12.063	4.146	14.507	3.854	3.535	0.001	Significant
Social Withdrawal	12.238	4.717	14.676	4.594	3.028	0.003	Significant
Stigma Resistance	17.714	1.007	17.296	1.224	2.14	0.034	Significant
Total ISMI Scale	73.952	14.622	83.676	15.466	3.726	0.000	Significant

## 10.6. Difference between students with disability in their level of vocational hope

A one-way analysis of variance was conducted to see whether or not a statistically significant difference in vocational hope score as measured by WHS exists among university students with disability. The result of One-way ANOVA showed that there is no statistical significant difference between groups of university students with disability in their level of vocational hope, as the sig (p-value of the total scale) is larger than 0.05. ( $F= 0.365$ ,  $p= .0833$ ).

See table 10

Table (10): Comparisons of the vocational hope Score across groups with Different Types of disability (N= 134)

Variance	Sum of Squares	Degree of freedom	Mean Square	F	Sig.	Decision
Between Groups	66.056	4	16.514			
Within Groups	5829.772	129	45.192	0.365	.0833	Not Significant
Total	5895.828	133				

## 10.7. Difference between genders on vocational hope scores

An independent samples t-test was conducted to examine the difference between males and females in overall vocational hope scale, given that groups sizes were unequal ( $N1 \neq N2$ ). The results were found to be significant ( $t= 3.043$ ,  $p= 0.003$ ). To illustrate, the independent sample t-test revealed a low, albeit significant difference between genders on vocational hope scores. Table (11) showed that the means of female students ( $M= 79.169$ ,  $SD= 6.849$ ) were lower than the means of male students ( $M= 82.571$ ,  $SD= 5.991$ ). Meaning that, males have higher vocational hope scores than females. Table (11) shows significant difference between genders on work hope scores; given that the sig. value of the total scale scores is lower than 0.05.

Table (11): Mean Scores and Standard Deviation on WHS scale for male and female

Male N= 63		Female N= 71		T	Sig.	Decision
Mean	SD	Mean	SD			
82.571	5.991	79.169	6.849	3. 043	0.003	Significant

## 11. Discussion

To the researcher's knowledge, this is the first study carried out in Syria to study relation between self-stigma and vocational hope among a sample of university students with disability. With reference to level of self-stigma as reported by research sample, results showed elevated rates of internalized stigma (i.e., self-stigma) among research participants. Except for score on the stigma resistance subscale, findings accordingly showed that participants who reported high level of alienation; stereotype endorsement; social withdrawal and discrimination experience were less likely to develop high stigma resistance, respectively. These findings are in accordance with previous research (e.g., Boyle, 2012; Boyle & Fearon, 2018; Del Rosal et al., 2021; Ebuenyi et al., 2018; Kong, et al., 2020; Liang & Zhang, 2023; Lindsay et al., 2017; Lindsay et al., 2015; Moussa, 2016; Pérez-Garín, Recio, Molero, 2021; Picco, et al., 2016; Szcze'sniak et al., 2018; Rana, Kausar & Khan, 2021), assured that individuals with disability are subject to unjust and falsely-based stigma, are less capable to fight stigma and social discrimination and thus suffer self-stigma that can pose a barrier that prevents them from pursuing their important life goals including, but not limited to, seeking rehabilitation, education and employment.

Low levels of vocational hope reported by research sample come in line with previous literature and research demonstrating that individuals belong to

underrepresented groups (e.g., minorities, individuals with disability; low income or deprived populations) experience low levels of hope or have difficulty developing components of hope (e.g., Del Rosal et al., 2021; Feldman, et al., 2016; Hettenbaugh, 2021; Liang & Zhang, 2023; Livingston & Boyd, 2010; Picco, et al., 2016; Thompson, Her & Nitzarim, 2014). These results call attention to the significance of the vocational hope construct during the collegiate transitional period for under-graduated students with disability who identified as members of underrepresented group and who may appear as 'other and different' in the general educational context and thus experience more difficulties (e.g., stigma) that hinder their development of components of hope and other skills needed to achieve successful transition to work (Thompson, Her & Nitzarim, 2014; Moussa, 2016).

Consistent with the researcher's expectations, findings showed that self-stigma is significantly and negatively associated with vocational hope. Meaning that, the higher the self-stigma in the students with disability as measured by (ISMI), the lower was their level of vocational hope as measured by (WHS). In general, these findings support previous research demonstrating negative associations between self-stigma and hope found in various populations (e.g., Corrigan, et al., 2006; Del Rosal, et al., 2021; Dewedar, et al., 2018; Hamidi, et al., 2023; Liang & Zhang, 2023; Ociskova et al., 2015; Yanos, et al, 2008; Vrbova, et al., 2017). These results also come in line with the theoretical framework proposed by social psychology research, social cognition and social psychology of disability regarding interaction between person and surrounding psychological situation or context (Dunn, 2015). This perspective, as earlier noted in this academic paper, stresses importance of person-situation interaction to learn more about factors that may play a great role in human behavior (e.g., job seeking, engagement in career preparation

process...etc.). Accordingly, low level of vocational hope could be considered as a result of internalizing social stigma and discriminative treatment students with disability confront in their daily life. The current results also continue to lend further support for the 'why try effect' model presented by Corrigan et al, 2009 which explains that self-stigma may result in negative psychosocial outcomes that contain, but not limited to, low level of hope. More specifically, self-stigma leads to 'why try' responses, such as avoidance of pursuing goals and, thus, decreases the level of hope individual has toward the future. In this term, the 'why try effect' of self-stigma can be conceptualized as decreased hopefulness, i.e., weakened belief in person's opportunities and abilities to obtain and realize important life goals (Corrigan et al., 2009; Corrigan et al., 2016).

However, positive and significant correlation was found between the stigma resistance sub-scale mean score of ISMI and the total mean score of WHS. In other words, the lower the stigma resistance in the students with disability, the lower was their level of vocational hope as measured by (WHS). These findings come in line with recent research found significant and negative correlation between stigma resistance and hopelessness (Abdo et al., 2022). Other theoretical literature and research consistently assert that individuals who are less capable to fight social discrimination (i.e., who report low level of stigma resistance), suffer more and experience deleterious outcomes (Engidaw et al., 2020; Ritsher et al., 2003), whereas individuals holding high stigma-resisting beliefs enjoyed high level of self-esteem, high quality of life and empowerment (Sibitz et al., 2011)

Another important finding in this study was the difference between the two gender groups in self-stigma and vocational hope. On the contrary of researcher's expectation, results found that when comparing the self-stigma

and vocational hope of male and female students with disability, there were significant differences, indicating that male students experience higher levels of vocational hope and lower level of self-stigma than female students. To illustrate, while male and female students with disabilities interviewed in this study reported high level of self-stigma and low level of vocational hope, female students seemed to suffer more than their male counterparts. However, these differences in self-stigma and vocational hope between people of different genders were small but significant. Results from previous studies pertaining gender differences in self-stigma and hope have been mixed. Some have found higher rates of internalized stigma among women (e.g., Asrat et al., 2018; Chivate et al., 2017; Khan et al., 2015; Rohwerder, 2018); others have reported that women are less likely to endorse public stigma than men (e.g., Bathje & Pryor, 2011; Corrigan & Watson, 2007), and others have not found a statistically significant influence of gender on the level of self-stigma (Kalisova, et al., 2018). Similarly, some studies suggest greater level of hope among women whether with or without disability (e.g., Dragojević, Milačić-Vidojević & Čolić, 2016; Statistics Canada, 2022; Wikström, Lorentzen, Lorentzen, 2018), but other research on people with other type of disability or impairment like HIV/(AIDS) or mental illness have found that women feel significantly less hopeful than men (e.g., Chivate et al., 2017). These mixed findings suggest that relationships between such socio-demographic variable (i.e., gender) and internalized stigma and hope may be complex. However, this gendered difference in self-stigma and vocational hope reflects gender norms/stereotypes endorsed in the societal and cultural context and assume that men are stronger, more competent and more confident than women who are marginalized even further, in line with these cultural norms that encourage such misbeliefs regarding gender roles and give priority to males rather than

females. Recent research and literature, consistently, suggested that women with disability confront greater challenge in obtaining a job or in being employed or accepted as job candidates (Rohwerder, 2018; Rohwerder 2020), which is usually referred to as double discrimination and marginalization due to the stigma associated with gender as well as disability (Breffka,et al., 2023).

In addition to gender, the present study examined whether levels of self-stigma and vocational hope as reported by members of research sample will differ by virtue of type of disability they have. Consistent with researcher's expectation, the results highlight that no significant differences existed in self-stigma, which suggests that self-stigma is universal when it comes to those with disability in eastern culture and society like the Syrian society. This important finding further indicates that regardless of type of disability, people with disability experience self-stigma which, in turn, may have the potential to decrease their hope in vocational future. Accordingly, findings also revealed that level of vocational hope participants reported did not differ by virtue of their type of disability.

## **12. Strengths and limitations**

Of note, the present study is one of the first research efforts in Syria to show associations among self-stigma and vocational hope in a population at risk for self-stigma—individuals with disability. There are very few or no similar studies published in Syria to examine self-stigma as a barrier or disabling factor that may negatively influence future career of individuals with disability through its' negative impact on level of vocational hope this population exhibit. Therefore, the results of this study are specifically useful for psychologists working with individuals with disability and generally for

this at risk-population (i.e., students with disability), their parents, and other significant people in their surrounding context (including their caregivers, teachers, and employers).

Besides the strengths mentioned above, the present study includes a number of limitations which should be taken into consideration. Firstly, the participants of this study were university students. A similar study could be conducted with different age groups. Further this sample does not represent all people with disability in Homs and/or Syria hence the results cannot easily be generalized. Second, participants in the present study had different types of disabilities which could be a contributing factor to different experiences. For example, future research could take variables like severity of disability and time of its development into account when examining association between self-stigma and vocational hope among individuals with disability. These limitations suggest that the findings of the present study could be considered as preliminary, providing a direction what can be done in the future.

### **13. Conclusion and recommendations**

In a view of the present findings it could be concluded that the group of university students with disability in Syria may experience high self-stigma, low level of stigma resistance and poor level of vocational hope, thus they are the most at-risk population and future interventions should consider it as a target group. Accordingly, achievement of the United Nations' 2030 Agenda for Sustainable Development requires focusing on reducing stigma to improve process of transition to work and inclusion in the world of work in this population of university students with disability. Interventions can adopt a multipurpose approach to target different types and effects of stigma at the individual as well as societal level. In this term, interventions not only attempt

to target social and self-stigma but also the negative consequences stigmatization may have on other psychosocial outcomes such as sense of hope, and more specifically vocational hope. Such counseling or therapeutic intervention could be highly effective when it aims at helping people with disability to cope with stigmatization whilst increasing their sense of hope and promoting their ability to resist stigma.

The current results, further, suggest that self-stigma and vocational hope may vary with gender. Female students reported higher level of self-stigma and lower level of vocational hope comparing to their male counterparts. Thus interventions to support students with disability must take gender and the unique traits of males and females into account in terms of self-stigma as well as work hope. In addition, it is critical to apply tailored approaches to address the different challenges faced by women and men who have disability.

## Author Contributions

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