

Resilience's Impact on the Mental Well-Being of Individuals with Physical Disabilities

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Abstract

Introduction: Physically disabled people's mental health should be a top priority since it has a considerable influence on their general quality of life. Promoting these people's psychological health and general well-being depends on recognizing and addressing the particular difficulties they confront.

Objectives: This study's primary goal was to use route analysis to investigate how social identity, group action, and resilience can help persons with physical disabilities avoid the detrimental effects of being Stigmatized internally. Our concept has two possible outcomes: the first is achieved by Group recognition and group action, and the 2nd is accomplished through resilience.

Methods: A total of 321 Chinese individuals with physical disabilities between the ages of 19 and 84 (45.1% men; mean and SD of age = 46.1 [13.3]) replied to the survey. Through an online poll, data for three months were gathered.

Results: The evaluated model successfully matched the data. We discovered that resilience acted as a mediator in the association between Stigmatized internally and the psychological well-being of persons with physical disabilities. However, neither the social identity nor group activity served as a mediator in our individual relationships between Stigmatized internally and quality of life.

Conclusions: The findings supported the link between Stigmatized internally and poor quality of life among people with physical disabilities. The findings indicate that some interacting mechanisms, including resilience, may help to mitigate the harmful impacts of Stigmatized internally. However, neither the aim of collaboration nor any consequences of affiliation with the group were identified.

Keywords: Stigmatized internally, Group Recognition, Collaboration, Resilience, Psychological well-being

1. Introduction

Understanding the complex realities of people with physical impairments is essential in today's diverse and inclusive society. Although people with physical impairments may face particular difficulties and restrictions, their overall quality of life is greatly influenced by their mental health. Resilience has become a popular psychological concept because of its potential to improve people's capacity to deal with hardship and preserve their mental health (Harms et al., 2018). The effects of resilience on the mental health of people with physical limitations will be discussed in this introduction. Physical impairments cover a broad spectrum of disorders that impair movement, motor function, or sensory perception. They may be inherited or acquired as a result of trauma, disease, or other medical problems. Physical and social challenges that come with having a physical impairment on a daily basis can have a very negative influence on someone's mental health. How people view and deal with their handicaps is influenced by the intricate interaction of physical constraints, societal views, and individual psychological resiliency (Athota et al., 2020).

For people with physical impairments, resilience, which is widely described as the capacity to bounce back and constructively adjust to adversity, is an essential psychological resource. It includes mental, emotional, and

behavioral functions that help people overcome obstacles, keep an optimistic attitude, and discover meaning and purpose in their life. People who are resilient are able to overcome their physical constraints and devise plans to improve their mental health. It is crucial to comprehend how resilience affects people with physical impairments and mental health for a number of reasons (Kansky, 2017). First, it dispels myths about fragility and reliance by highlighting the qualities and capabilities of people with disabilities. Individuals with physical limitations can lead fulfilled lives and make significant contributions to their communities by understanding and utilizing resilience. Insights into efficient therapies and support systems can be gained by analyzing the link between resilience and mental health. Healthcare experts, decision-makers, and providers of services for people with disabilities may create specialized programs and services to improve mental well-being and address the particular difficulties this community faces by recognizing the characteristics that increase resilience (Foster et al., 2018). Building inclusive communities that celebrate diversity and give people with disabilities a voice begins with examining the effects of resilience on mental health. Society may lessen stigma, encourage social inclusion, and develop settings that support the mental health of people with physical impairments through supporting resilience-oriented methods (Brigham et al., 2018).

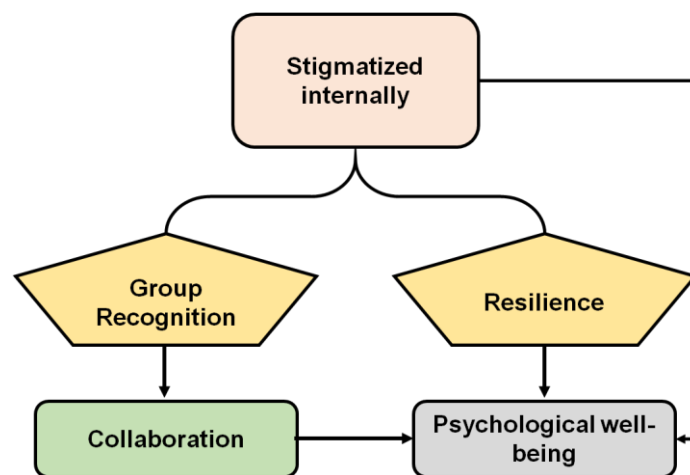


Figure 1: A model of the psychological well-being of persons with disabilities

The current study uses route mapping to investigate the effects of Stigmatized internally on the psychological well-being of persons with physical disabilities. We offer an example (Figure 1) in which Stigmatized internally is connected to Psychological well-being through two paths that may represent two methods to cope with stigma. The initial way is of a collaborative/peripheral character, and the other is of an inward nature. In the present research, we investigate whether Group recognition, group effort, and resilience influence the link between Stigmatized internally and psychological well-being in individuals with physical disabilities. The link between Stigmatized internally and Psychological well-being is predicted to be mediated by group recognition and collaboration, as seen in Figure 1. We also postulate that resilience modulates the link between psychological well-being and Stigmatized internally.

The remainder of the paper is divided into subsequent parts. Part 3 contains the method explained. Part 4 contains the results and analysis. Part 5 discusses the conclusions.

2. Related Works

Belcher et al., 2021 emphasize physical activity (PA), exercise, and fitness as modifiable resilience variables that may support autonomy by enhancing top-down management of bottom-up processing in the brain, serving as a safeguard against psychological issues at this vulnerable time. Paredes et al., 2021 used an online poll ($n = 711$) to analyze the impact of the observed COVID-19 risk on objective psychological health. Results supported the suggested framework, which via the intermediary function of subsequent anxiety reactivity, offers a

methodical description for this impact. Carriedo et al., 2020 examined the mental well-being of elderly people throughout their residence's separation as a result of the COVID-19 pandemic to determine whether satisfying the worldwide PA suggestions for well-being from the WHO is related to their resiliency, impact, and symptoms of depression. Individuals exposed to ACEs have reduced stress tolerance, weaker executive control over impulses, and issues with socializing and trust. Consequently, these people seem to be biologically predisposed to ingesting HHBs and developing LMWB; frequently, the former (alcohol, cigarettes, and high-calorie food) serve as temporary coping methods for the latter (Bellis et al., 2017). Numerous elements from this study ought to direct future emergency preparedness to support psychological wellness and guarantee the availability of resources. Particularly, there has been a systemic breakdown to help those undergoing treatment for a documented psychological problem by releasing them or failing to make sure HCPs are contacted. Although teleconsultations and support groups are welcomed, this research indicates both patients and HCPs have had unpleasant experiences with them, and some individuals have outright refused distant treatment (Ivbijaro et al., 2020).

Gao et al., 2017 showed that GWB and resilience were the key indicators of mental health. Although resiliency is a stable personality attribute, it may nevertheless be altered. Resilience building is a psychological idea that is acknowledged in both New Zealand and global policy as a means of both preventing and treating mental disorders. Zeeman et al., 2017 is to further understand transgender youths' perceptions of what is necessary to foster their capacity for emotional and mental health by conducting a detailed analysis of information gathered in the context of a larger study with youth (n = 97). Mohamed and Thomas, 2017 look into how well-adjusted refugee kids are to their new social environments, as well as how it affects their mental health and psychological well-being. It also looks into how parents of refugees and school personnel feel about it. In addition, the function of risk and protective factors was discussed, along with the concept of resiliency. Yildirim et al., 2022 looked at the relationships between resilience, behavioral hope, preventative behaviors, subjective well-being, and psychological health in individuals. 220 people from the general public joined the research and completed a variety of tests. Roulston et al., 2018 was evaluated the effects of six-week meditation training on the psychological well-being, stress management, and resilience of graduate social work learners in Northern Ireland. The training was modeled after the manualized therapy program created by Kabat-Zinn.

3. Methodology

Table 1 displays the characteristics of the 321 physically disabled Chinese subjects that participated in the research study. The table contains details on the participants' gender, age, degree of education, and certification of their disabilities. Theoretically speaking, each column is explained as follows:

The research includes information on each participant's gender, age range, level of education, and status as someone with a handicap. It is noted how the participants are distributed by gender and how many of each, along with the age range, the lowest and highest age values are given, as well as the median (M) and standard deviation (SD). The percentage of persons with various degrees of impairment is shown by the participants' status as having a disability certification. Their ability to get certain benefits and services is impacted by this distinction. Indicating the percentage of people with various degrees of academic achievement, the participants' educational backgrounds are also displayed.

Table 1: Participants' Characteristics

Participants Characteristics	Count
Total Participants	321
Gender	
Men	154
Women	167
Age	
Range	19-84

Mean (M)	46.1
Standard Deviation (SD)	13.3
Disability Certification	
34-66% Disabled	228
>66% Disabled	93
Education	
Secondary Education or Vocational Training	148
Higher Education	87
Primary Education	72
No Formal Education	14

3.1 Measurements

3.1.1 SSCI-9

The study capitalized on the Chinese adaption of the SSCI's Stigmatized internal subscale that has demonstrated sufficient psychometric characteristics in a sample of individuals with various impairments. The overall score can vary from 8 to 35 and is determined by assigning a four-point rating for every item on a scale from 1 (never or nearly never) to 5 (often or almost always). Higher evaluations reflect higher stigmatization rates. With a Cronbach's alpha of 0.92 and a composite reliability (CR) of 0.92, the rating system in our study demonstrated a high level of internal consistency.

3.1.2 Group Recognition

We tested recognition using the Chinese translation of a six-item test that was already verified. On a 5-point Likert scale, participants answered each item by expressing how much they agreed with it. This scale's CR was 0.86, and its alpha value was 0.83.

3.1.3 Collaboration

The perceived efficacy of the collaboration as well as its intent to carry it out was two of the four criteria used to evaluate it. On a 5-point Likert scale, where 1 represents "no agreement," and 5 represents "complete agreement," individuals were asked to react. The internal consistency results in the current study demonstrated strong consistency ($\alpha = 0.81$ and $CR = 0.82$).

3.1.4 Resilience

Conner-Davidson Resilience Scale, a 10-item self-managed survey with a Likert-type additive scale and five response alternatives (1 = never to 5 = nearly usually), was used to measure resilience. The first design just had one dimension. We employed the Chinese version, which in our study had good reliability ($\alpha = 0.91$ and $CR = 0.93$).

3.1.5 Psychological well-being

The WHOQOL-BREF, a brief version of the WHO well-being survey, was utilized. It has a psychological category subscale. Excellent results indicating greater well-being in the psychological domain were determined by responding to the seven items that made up the subsidize on a six-point Size (item 26 was reversal coded). Internal consistency of the rating system in our study was good (Cronbach's alpha = 0.81 and $CR = 0.84$). Table 2 displays Measurements with their examples.

Table 2: Measurements with Items

Measurements		Items
SSCI-9	S1	I experience feelings of alienation from others.
	S2	<ul style="list-style-type: none"> • Owing to my disease • I experience social embarrassment.
Group Recognition	G1	<ul style="list-style-type: none"> • When persons with a similar impairment are criticized • It appears to be an individual slight.
	G2	I'm genuinely curious about other people's perspectives on persons with disabilities.
Collaboration	C1	I'm ready to take part in group initiatives to promote the rights of individuals with disabilities.
Resilience	R1	under pressure, I pay attention and have sharp thinking
	R2	Failure does not readily demoralize me.
Psychological well-being	P1	Do you find life to be enjoyable?
	P2	How much do you believe your life has meaning?

3.2 Process

Individual support was provided with participant recruiting by undergraduate psychology majors at Shanghai Jiao Tong University in China. The scholars selected the target individuals (i.e., individuals with physical disabilities) and gave them guidance on how to fill out the survey. The three-month collecting period was used. Participants received assurances of secrecy and identity. Participants filled out the questionnaire using Qualtrics software for 20 to 30 minutes after registering and signing the permission form. The study was conducted in accordance with the Rules of Helsinki's ethical principles and earlier authorized by the university's ethical council.

3.3 Analytical Statistics

The descriptive statistics and correlations among the factors were first determined through a preliminary study in order to comprehend the fundamental characteristics and connections among the variables. The suggested model was then put to the test utilizing route evaluation with the help of AMOS 24. Multiple normalcies were statistically assessed using the Criterion ratio of multiple kurtosis given by Mardia, where a critical ratio below indicates the normality of multiple variables. Model estimates employed the highest probability prediction (Table 3).

Table 3: Criterion of various indices

Index	Criterion
Kurtosis	<6.0
Mardia's coefficient	-0.88
Mahalanobis distance	No multivariate outliers
χ^2/df	<4
RMR	≤ 0.06
NFI	0.91 - 0.96
CFI	>0.96

Finally, the interposition effects were evaluated using a bias-corrected bootstrapping approach. The bootstrap technique is recommended as the best technique for examining interposition since it produces valid predicts and uncertainty ranges for both direct and indirect effects. 10,000 resample's of the original dataset were produced using the random sampling approach. The bootstrapping method's confidence interval of 96% does not cover 0 if the indirect impact is large (Table 4). Following a comparison of the importance of immediate impacts both

with as well as without mediators, either a total interposition ("i.e., the direct effect becomes no significant") or an incomplete interposition ("i.e., the direct effect keeps significant") is found.

Table 4: Final sample size

Information	Value
percent of answers that absences	<3%
Imputation is required	Not required
Size of the final sample utilized in SEM	276
Sufficiency of sample size for accurate estimates	Sufficient
The minimum suggested sample size for SEM techniques	200-300 cases
Minimum suggested cases per parameter estimate	11
estimate-required variables	18
Adequacy of the final size of the sample (n=276)	Sufficient

4. Result

The factors under study are described statistically in Table 5 and Figure 2, together with their bivariate coefficients of correlation. We looked examined the relationships among psychological well-being, group affiliation, collaboration, resilience, and Stigmatized internally. Except for the links between Stigmatized internally and group activity, group recognition and psychological well-being, and group recognition and resilience, all associations were statistically significant.

Table 5: Correlation of Pearson indices and descriptive stats

	V1	V2	V3	V4	V5
1	-				
2	0.18**	-			
3	-0.01	0.53**	-		
4	-0.55**	0.07	0.23**	-	
5	-0.51**	0.03	0.13	0.62**	-
Note: V1: Stigmatized internally, V2: Group Recognition, v3: Collaboration, v4: Resilience, v5: Psychological well-being					

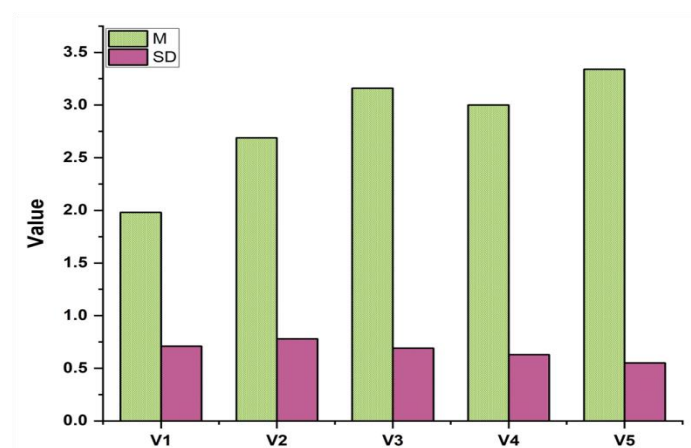


Figure 2: Mean and Standard deviation of Correlation indices

4.1 Model Testing

The findings demonstrated that the proposed model generally matched the data, with the exception of those relating to the X^2 value, which was significantly impacted by the sample size: $X^2 = 25.53$, $df = 4$, $CFI = 0.952$, $NFI = 0.945$, and $RMR = 0.048$. AMOS' adaptation index suggested that the model be modified to include a path connecting engagement and resilience. This adjustment was incorporated into the framework, and the study was repeated after examining the logical viability of the modification and confirming that there is a substantial connection between the two variables (Table 5). In Figure 3, you can see the completed structure. In general, the modeling provided a very good model to fit the data: CFI was 0.995, NFI was 0.988, and RMR was 0.018. The X^2 value was not remarkable ($X^2 = 5.79$, $p = 0.122$).

Stigmatized internally was favorably correlated with group recognition ($\beta = 0.19, p = 0.003$), which was then correlated with activism ($\beta = 0.54, p < 0.001$), as seen in Figure 2. However ($\beta = 0.04, p = 0.310$), group behavior did not predict psychological well-being. Resilience and group effort were favorably correlated ($\beta = 0.23, p < 0.001$). On the other side, being Stigmatized internally was, as we predicted, inversely correlated with resilience ($\beta = -0.56, p < 0.001$), which was then favorably correlated with psychological well-being ($\beta = 0.53, p < 0.001$).

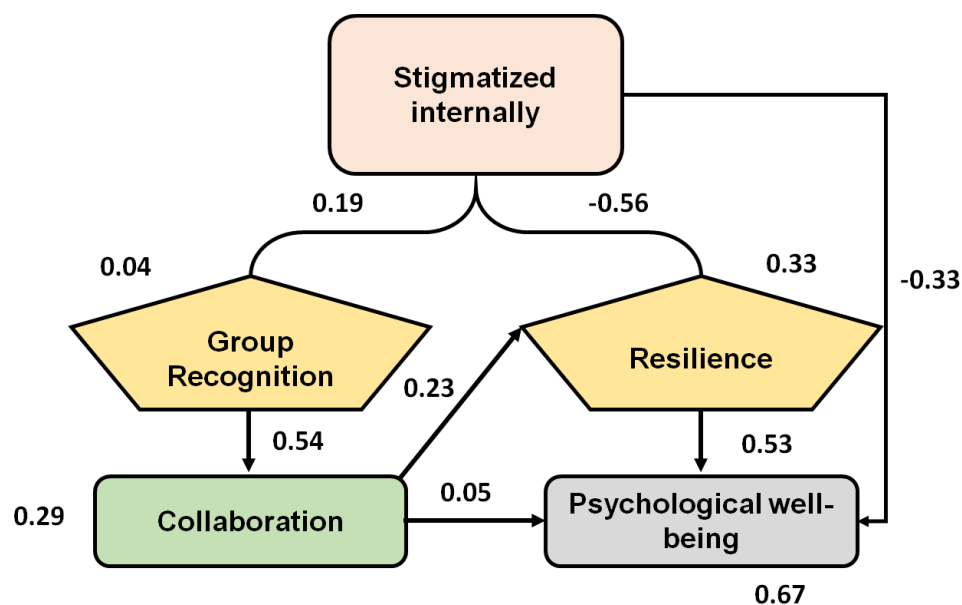


Figure 3: The suggested model's standardized coefficients for regression

4.2 Interposition Evaluations

The factors of group recognition and collaboration had no moderating influence on the association between Stigmatized internally and Psychological well-being ($\beta = 0.05, p = 0.311$) because there was no association between activity and Psychological well-being. Table 6 results demonstrate that Stigmatized internally has a substantial indirect influence on resilience through group recognition and group action ($\beta = 0.022, p < 0.001$; 96 % CI: 0.009, 0.044). The association between Stigmatized internally and resilience did not weaken when group recognition and collaboration were included in the model; hence there was no interposition impact. Additionally, as there was no immediate correlation between the two factors ($\beta = 0.011, p = 0.858$), there was no need to test for an interposition influence of group recognition on the link between Stigmatized internally and collaboration.

Table 6: Results of interposition analysis

Interposition Analysis	V1→V2and V3→V4	V1→V2→V3	V1→V4→V5
	No mediation	No mediation	Partial mediation

Direct Beta without Mediator	-0.54***	-0.02	-0.62***
Direct Beta with Mediator	-0.54***	0.08***	-0.33***
Indirect Beta [CI]	0.03**[0.009-0.044]	0.04 [0.037-0.159]	-0.28* [-0.224—0.372]
Note: V1: Stigmatized internally, V2: Group Recognition, v3: Collaboration, v4: Resilience, v5: Psychological well-being			

Stigmatized internal and psychological well-being were inversely correlated, with the link being mediated by resilience. We limited the routes from Stigmatized internally to resilience and from resilience to Psychological well-being in the direct model to 0 in order to analyze the kind of mediation. In this instance, the partial interposition of resilience reduced the direct link between Stigmatized internally and Psychological well-being from $\beta = 0.61$ ($p < 0.001$) to $\beta = 0.32$ ($p < 0.001$). The bootstrapping findings showed an indirect

5. Conclusion

This study first demonstrates the detrimental relationship between Stigmatized internally and well-being in individuals with physical disabilities. 2nd, our study demonstrates the interposition function of resilience in the link between Stigmatized internally and the psychological well-being of persons with disabilities. The findings indicate that some interacting mechanisms, including resilience, may help to mitigate the harmful impacts of Stigmatized internally. Intervention programs designed to enhance the psychological well-being of persons with disabilities should encourage resilience tailored to the disability's characteristics.

5.1 Implications

Our research suggests that the talents acquired through overcoming daily challenges are crucial in improving the psychological well-being of people with physical limitations. Compared to other variables like perceived efficacy of collaborative effort and intent to participate in it, these qualities have a bigger influence. The disability paradox stresses how one's experiences with disabilities affect their sense of self, worldview, relationships, and social environment. Individuals with persistent and significant impairments frequently claim an excellent quality of life owing to these personal experiences, even when external observers may view their living circumstances as unpleasant. In a similar vein, our study found that individuals had high levels of resilience and psychological well-being and that resilience counteracted the harmful impacts of being Stigmatized internally.

This suggests that a person's capacity to deal with daily obstacles has a much greater impact on their quality of life than the actual handicap they have. Our findings emphasize how crucial it is to have intervention programs in place that emphasize fostering resilience in order to raise the psychological well-being of people with disabilities. These programs can be beneficial in 2 ways: 1st, by creating tasks that build particular assets to aid in disability adapting, and 2nd, by promoting the adoption of coping mechanisms appropriate to the particular circumstances of their impairment. Programs that help people embrace their suffering, such as Acceptance Commitment Therapy, have shown benefits in treating chronic pain and enhancing their functional status, emotional well-being, and physical health. Diabetes sufferers, stroke survivors, and those who care for others with impairments or chronic diseases have all benefited from resilience treatments, according to research.

It is necessary to take into account any potential negative implications of resilience treatments, such as an undue emphasis on the person at the cost of environmental circumstances, even if they generally have good benefits on stress reduction and coping skills. Therefore, it is important to offer resilience therapies that are specialized to the distinctive qualities of each disability and the particular variables examined in applied research.

5.1 Limitations

There are a few restrictions on this study. First off, the fact that our sample was voluntarily chosen may indicate that participants had varying reasons for taking part in the study. Second, because the higher level was underrepresented, the sample did not contain all degrees of impairment. We did not take into account other disorders, including depression, PTSD/trauma, and drug use in the study population at the time of participation. These elements may influence how stigma is perceived, which in turn may impact psychological well-being. Additionally, we did not look at biological and life factors connected to coping with the disease's progression.

Future studies should include samples with a range of handicap categories, severity levels, and grades. There may be variations in terms of how severe the impairment is. Congenital versus acquired disabilities should also be taken into account because they may require distinct environmental adjustments. It is important to undertake longitudinal research to examine the mediating function of resilience over time and determine if a person's strengths change as a result of a handicap.

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