# The Dynamics of Social Inclusion of People with Spinal Cord Injury

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### ABSTRACT

**Purpose:** Social inclusion of people with disability is critical for maintaining social equity. The goal of this paper was to examine the dynamics of social inclusion of persons with spinal cord injury.

**Method:** A cross-sectional research design was adopted to study the impact of individual, interpersonal, organisational, community and socio-political conditions on interpersonal relationships and community participation. Confirmatory factor analysis was used to validate the measurement models. Structural equation modelling (SEM) in AMOS was used to derive results.

**Results:** The individual, interpersonal, organisational, community and sociopolitical conditions strongly influence social inclusion of persons with spinal cord injury. The strongest influencer of community participation is sociopolitical conditions ( $\beta$ =0.692 and p=0.001) and the strongest influencer of interpersonal relationships is organisational conditions ( $\beta$ =0.677 and p=0.001).

**Conclusion:** Social inclusion, measured by interpersonal relationships and community participation, can be enhanced by improving the individual, interpersonal, organisational, community and socio-political conditions, thereby contributing to social equity and sustainable performance.

*Key words:* personal conditions, interpersonal conditions, organisational conditions, community conditions, social and political condition, interpersonal relationship, community participation

# INTRODUCTION

As per the World Bank, "social inclusion is the process of improving the terms on which individuals and groups take part in society — improving the ability, opportunity, and dignity of those disadvantaged on the basis of their identity". As

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per the United Nations, "social inclusion is the process by which efforts are made to ensure equal opportunities – that everyone, regardless of their background, can achieve their full potential in life". Social inclusion is recognised as a general principle (Article 3), a general obligation (Article 4) and a right (Articles 29 and 30) in the United Nations Convention on the Rights of Persons with Disabilities. Social inclusion is a multidimensional concept with three facets, i.e., a) "markets - land, housing labour and credit", b) "spaces - political, cultural, social and physical" and c) "services - social protection, information, electricity, transport, education, health and water". These three facets interface with the ability, dignity and opportunity of people who are disadvantaged.

Clement and Bigby (2009) used the community inclusion framework with adults with severe disability and found that a pattern of service delivery with community presence best describes social inclusion. Cobigo et al (2012) conducted a literature review on social inclusion and suggested that "social inclusion speaks of the full and fair access to community-based resources and activities, having relationships with family, friends and acquaintances, and having a sense of belonging to a group". Bates and Davis (2004) studied services for people with learning disability and suggested that "social inclusion means ensuring that people with disabilities have full and fair access to activities, social roles and relationships directly alongside non-disabled citizens". Duggan and Linehan (2013) reviewed thirty-five papers on social inclusion and suggested that social inclusion can be understood as natural supports to promote independent living by people with disability. Forrester-Jones et al (2006) studied 213 people with disability, resettled after long stay in hospitals, over a 12-years follow-up and found that social networks and social support are considered to be key aspects concerning social inclusion. Hall (2009) articulated social inclusion to be associated with formal and informal supports, appropriate living accommodations, gainful employment, involvement in activities, significant reciprocal relationships and acceptance as individuals beyond disability.

Social inclusion is an integral part of social equity which constitutes the triple bottom line approach to sustainability. If social equity is questionable, it can lead to serious adverse impacts on ecology and the economic system, thereby rendering other efforts of individuals and institutions ineffective. In the United Nations' Sustainability Development Goals for 2030 agenda, Goal-3 includes seven targets and eleven indicators explicitly referencing persons with disabilities, covering inclusion and empowerment of persons with disabilities among other aspects. The global reporting initiative (GRE framework) provides comprehensive objective measures of social equity, which are being used worldwide for reporting sustainability performance by companies. Social inclusion benefits all people: a) individuals with physical or intellectual/ developmental disability, b) community, c) society and the nation.

Two domains of social inclusion can be inferred from the aforementioned review of literature:

a) interpersonal relationships, and b) community participation. Within each domain, there are three aspects, namely, kind of people in the social network; structure - length, origin, frequency and mode on interaction; and, function - kinds of support.

The desirability of social inclusion can be seen in aspects such as: a) happiness, self-esteem, confidence and mental health (Forrester-Jones et al., 2006); b) general well-being (Johnson, Douglas, Bigby, & Iacono, 2012); c) adding value and respect (Johnson, Douglas, Bigby, & Iacono, 2009); d) decreasing negative attitudes, stereotypes, stigma and discrimination (Mahar, Cobigo, & Stuart, 2013; Power, 2013); f)e) promoting uniqueness and decision-making capability (Johnson et al, 2009); f) improving lives (Mahar et al., 2013); g) enabling people with disabilities to contribute to society (Overmars-Marx, Thomése, Verdonschot, & Meininger, 2014); h) combating poverty, unemployment and poor access to healthcare (McConkey, 2007); and, i) enhancing community safety and protection against abuse (Quinn & Doyle, 2012).

#### Objective

Spinal Cord Injury (SCI) is a truly shattering injury, with grave consequences for the injured individual, his/ her family and society. The WHO recognises it as a major musculoskeletal condition that presents a serious disease burden. People with spinal cord injuries face specific challenges owing to locomotive as well as bowel and bladder management issues restricting their movements and community activities. One of the principles for empowerment of persons with disabilities under the Rights of Persons with Disabilities Act, 2016, in India, is full and effective participation and inclusion in society. While studies done in the past have focused on intellectual disabilities and social inclusion, there are no studies on social inclusion of persons with spinal cord injury. With the number of persons with spinal cord injury increasing steadily, this study aimed to examine how individual, interpersonal, organisational, community and socio-political conditions influence interpersonal relationships and community participation among a sample of persons with spinal cord injury in India.

Five sets of hypothesis are proposed, to examine the dynamics of social inclusion:

- 1 a.) Individual conditions have a significant impact on interpersonal relationships.
- 1 b.)Individual conditions have a significant impact on community participation.
- 2 a.)Interpersonal conditions have a significant impact on interpersonal relationships.
- 2 b.)Interpersonal conditions have a significant impact on community participation.
- 3 a.)Organisational conditions have a significant impact on interpersonal relationships.
- 3 b.)Organisational conditions have a significant impact on community participation.
- 4 a.)Community conditions have a significant impact on interpersonal relationships.
- 4 b.)Community conditions have a significant impact on community participation.
- 5 a.)Socio-political conditions have a significant impact on interpersonal relationships.
- 5 b.)Socio-political conditions have a significant impact on community participation.

## METHOD

#### Study Design

A cross-sectional research design was adopted to study the impact of individual, interpersonal, organisational, community and socio-political conditions on interpersonal relationships and community participation.

### Sample

A convenient sampling method was used to select 410 persons with spinal cord injury. The respondents were from all parts of India.

### **Inclusion Criteria**

- Those with spinal cord injury, either traumatic or due to other causes such as infection;
- Those with injury since at least three years; and,
- Those who were at least wheelchair mobile.

## **Exclusion** Criteria

- Newly-injured persons; and,
- Persons confined to bed.

#### Measures

The constructs were developed through an extensive review of literature. A seven-point Likert scale was used to measure the observable variables that represent the latent variables. The measures developed by Simplican et al (2015) with contextual modifications were used for this study. Details of construct-wise measures are described in the next section.

#### **Individual Conditions**

At an individual level, enabling conditions comprise the use of goal-setting, awareness about feasible activities, level of functioning, confidence and self-motivation (Cobigo et al., 2012; E. Hall, 2005). A sense of belongingness, improved self-esteem and increased happiness are some of the important individual outcomes of social inclusion. To measure individual conditions, the aforementioned measures were modified into a five-item and seven-point Likert scale.

#### **Interpersonal Conditions**

The family and peers/ superiors/ subordinates at the workplace are the relevant entities for the interpersonal domain. Relationships with peers/ superiors/ subordinates and their attitudes, and relationship with family members constitute

the interpersonal enabling conditions (Beadle-Brown, Mansell, Cmbridge, Milne, & Whelton, 2010; E. Hall & Wilton, 2011). Increased social capital and respect and trust between people are the key interpersonal outcomes of social inclusion. To measure interpersonal conditions, the aforementioned measures were modified into a five-item and seven-point Likert scale.

#### **Organisational Conditions**

The informal networks like families and formal networks like the workplace settings constitute the organisational domain (Chenoweth & Stehlik, 2004). The enabling conditions for families include family cultures, socio-economic status and social capital. Workplace-level enabling conditions include workplace culture and norms, learning and development opportunities, opportunities for career growth and workplace policy framework (Bigby, Knox, Beadle-Brown, Clement, & Mansell, 2012). Changes in organisation culture is the most important organisational outcome of social inclusion. To measure organisational conditions, the aforementioned measures were modified into a five-item and seven-point Likert scale.

#### **Community Conditions**

The enabling conditions under this domain comprise culture, traditions, civic amenities, accessible transportation, healthcare, access to general services, and types of living accommodation (Duvdevany & Arar, 2004). Community outcomes of social inclusion include decreasing negative attitudes, stereotypes, stigma and discrimination (Robertson et al., 2001). To measure community conditions, the aforementioned measures were modified into a five-item and seven-point Likert scale.

#### **Socio-Political Conditions**

Presence of appropriate legislations and enforcement of laws, market forces, track record of service delivery (say, during pandemic and natural disasters) constitute the enabling conditions under the socio-political domain (Quinn & Doyle, 2012). The socio-political outcome on social inclusion is reflected in the changed behaviour of others in the society, as others need to abide by the associated rules/ guidelines to support social inclusion (Hermsen, Embregts, Hendriks, & Frielink, 2014). To measure socio-political conditions, the aforementioned measures were modified into a five-item and seven- point Likert scale..

#### **Interpersonal Relationships**

The interpersonal relationship is the first integral component of social inclusion. It comprises three kinds of characteristics : a) category, b) structure, and c) function. From the category point of view, interpersonal relationship reflects in bonding and bridging (McVilly, Stancliffe, Parmenter, & Burton-Smith, 2006). Bonding offers the opportunity to build trust, confidence and reciprocity. Bridging on the other hand brings diverse people into contact with potential for improving employment outcomes. Both bonding and bridging are highly valued by people with spinal cord injury. Structural characteristics refer to the structure of the social network, which include who initiates contact, length of relationship, origin of relationship, frequency of contact and location of interaction (Heaney & Israel, 2008). The structure of the social network can be measured along four dimensions, such as, a) geographic dispersion, b) homogeneity, c) density, and d) size. Through the measure of the structural components, it is possible to get a clear picture of a person's level of social inclusion. The functional characteristic reflects the three types of support systems :

a) instrumental (tangible aid and services); b) informational (advice, suggestions and information): and, c) emotional (love, care and trust) (Abbott & McConkey, 2006). Prior research suggests that people with SCI value each kind of support. To measure interpersonal relationships, the aforementioned measures were modified into a five-item and seven-point Likert scale.

#### **Community Participation**

Community participation is measured through three characteristics namely, a) category, b) structure, and c) degree of involvement. Categories of community activities include: a) consumption - access to goods and services; b) religious and cultural activities; c) political and civil activities; d) leisure activities- hobbies, arts and sports/ games; and, e) productive activities- employment/ education (McConkey, 2007; Verdonschot, de Witte, Reichrath, Buntinx, & Curfs, 2009). The structure reflects the setting in the community for the different categories of activities (Clifford, 2013; Perring, 2005). Although people with SCI participate in many settings, true inclusion would relate to the mainstream setting as opposed to segregated settings. In other words, if larger number of activities are conducted in mainstream settings, it will indicate higher level of social inclusion. Based on prior research (O'Brien & Lyle, 1987; Thorn, Pittman, Myers, & Slaughter, 2009), the degree of involvement was conceptualised as presence (being physically present

in a community event, with little contact with other people); encounter (meeting with strangers in the community, that can be fleeting or more sustained); and participation (involvement in community activities that promote interpersonal relationships). While participation reflects a higher order of social inclusion, presence and encounters are necessary precursors to participation. To measure community participation, the aforementioned measures were modified into a five-item and seven- point Likert scale.

#### **Data Collection**

An inventory of variables related to conditions - individual, interpersonal, organisational, community, socio-political, and social inclusion - interpersonal relationships and community participation was established from the review of literature. Data was then collected using a two-stage approach suggested by Bourque and Fielder (2003). A draft/pre-test questionnaire was first administered to twenty-six respondents and based on the input from the pre-test survey, changes were made in varying extent to six questions. The final survey instrument was sent to 562 respondents through WhatsApp peer groups, individual emails and WhatsApp messages, while limited printed forms were administered through field investigators. In all 410 completed forms were received (a response rate of 73%).

## **Statistical Analysis**

Structural equation modelling (SEM) in AMOS was used to get the results from the survey data. The results include descriptive statistics covering the frequencies of the respective distribution from the socio-demographic information. The results also include confirmatory factor analysis, correlation between the constructs and regression.

#### Ethics

The study confirms to the scientific and ethical standards of Kalinga Institute of Industrial Technology, Deemed to be University.

# RESULTS

The demographic characteristics of the participants are shown in Table 1.

Variable	N	%
Gender		
Male	312	76.1
Female	98	23.9
Age (years)		
Below 20	9	2.2
21-30	100	24.4
31-40	189	46.1
41-50	102	24.9
Above 51	10	2.4
Education		
Less than High School	1	0.2
High School pass	28	6.8
Graduate	285	69.5
Post-graduate	79	19.3
Ph.D.	2	0.5
Professional	15	3.7
Location Type		
Rural	25	6.1
Sub-urban	171	41.7
Urban	214	52.2
State/ Union Territory		
Andhra Pradesh	8	2.0
Punjab		3.4
National Capital Region (NCR)		4.6
Telangana		15.9
Tamil Nadu		25.6
Odisha		48.5
Annual Family Income		
Less than 2 lakhs	48	11.7
2-5 lakhs		68.8
5-10 lakhs		12.0
Above 10 lakhs		7.6

# Table 1. Demographic Characteristics

#### **Measurement Model**

The measurement models are validated to ensure that the instruments (questionnaire) "measure the aspect ("construct") that they aim to measure (validity), and that they do this in a reliable way (reliability)". Using AMOS 20, "confirmatory factor analysis (CFA) was conducted to assess the reliability of the composition of the constructs and validate the scale used". "Correlation coefficients among the constructs were analysed to find out conceptual and empirical distinctiveness". Correlation coefficients, standard deviation and mean, are presented in Table 2. The data presented in Table 2 reflects that the constructs used in the study are distinct. In the CFA, Chi-Square test and other goodness of fit statistics like normal "fit index (NFI), comparative fit index (CFI), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), root mean square residual (RMR) and root mean square error of approximation (RMSEA) were used for model validity". The associated values are presented in Table 3, which meet the respective standards.

Constructs	Maara	Correlation between con						nstructs		
	wiean	50	INDC	IPRC	ORGC	COMC	SPC	IPR	COMP	
INDC	3.59	1.23	1							
IPRC	3.48	1.21	0.361*	1						
ORGC	3.82	0.94	0.424**	0.342*	1					
COMC	5.45	1.52	0.366**	0.276**	0.417*	1				
SPC	3.64	1.13	0.291*	0.411*	0.328*	0.428*	1			
IPR	4.94	1.55	0.668**	0.562**	0.489**	0.519**	0.489**	1		
COMP	4.71	1.67	0.406**	0.462**	0.582**	0.682**	0.562**	0.328*	1	

**Table 2: Descriptive Statistics and Correlation** 

Notes: INDC - individual conditions; IPRC - interpersonal conditions; ORGC - organisational conditions; COMC - community conditions; SPC - social and political condition; IPR - interpersonal relationships; COMP - community participation.

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

Construct	χ2	df	p	NFI	CFI	GFI	AGFI	RMR	RMSEA
INDC	13.88	2	0.01	0.988	0.992	0.978	0.931	0.20	0.02
IPRC	53.11	3	0.00	0.947	0.952	0.913	0.738	0.05	0.04
ORGC	6.48	2	0.00	0.992	0.993	0.986	0.936	0.012	0.05
COMC	8.32	2	0.03	0.958	0.961	0.971	0.851	0.014	0.07
SPC	2.68	2	0.05	0.996	0.997	0.995	0.944	0.009	0.01

#### Table 3: Assessment of the Measurement Model of each Construct

IPR	3.29	2	0.00	0.992	0.996	0.992	0.968	0.38	0.05
COMP	68.2	20	0.00	0964	0.976	0.938	0.889	0.076	0.06

Notes: : $\chi$ 2 - Chi square; df - degree of freedom; *p* - significance; NFI - normal fit index; CFI - comparative fit index; GFI - goodness of fit index; AGFI - adjusted goodness of fit index; RMR - root mean square residual; RMSEA - root mean square error of approximation"; INDC- individual conditions; IPRC - interpersonal conditions; ORGC - organisational conditions; COMC - community conditions; SPC - social and political condition; IPR - interpersonal relationships; COMP - community participation.

#### **Construct Reliability**

Statistical reliability of the scale was established by comparing values of "composite reliability index (CR  $\ge$  0.6) and Cronbach's coefficient (C $\alpha \ge$  0.6)". The determined values from analysis of the survey data exceed the threshold values suggested by Fornell and Larcker (1981), Anderson and. Gerbing (1988), and Hair et al (1998). Cronbach's coefficient are in the range of 0.831 and 0.953 and the composite reliability index are in the range of 0.836 and 0.954.

#### **Construct Validity**

Content, face, discriminant and convergent validity were used to establish statistical validity of the scale. Content and face validity were established considering identification of the variable based on extensive review of literature.

"Convergent validity is a subtype of construct validity that verifies whether the scores of the instrument under study make sense in relation to the scores of other, related instruments. Scores should correlate with scores of other instruments to the degree that one would expect" (Schanz, Equit, Schäfer, & Michael, 2021). "Assessing convergent validity is an iterative process: the more hypotheses are tested, the stronger the evidence towards the instrument being valid. Convergent validity is generally considered adequate if >75 % of hypotheses are correct, or if a correlation with an instrument measuring the same construct is >0.50''(Sar, 2020). "The exact values of these cut-off points may be arbitrary, but they provide guidance when judging whether convergent validity is adequate" (Fornell & Larcker, 1981). "Furthermore, correlations with related constructs should be higher than with unrelated constructs" (Anderson & Gerbing, 1988). In the study, convergent validity was established through assessing the average variance extracted (AVE = Sum of square of standardised loadings ÷ Number of indicators). Most of the test values are higher than the threshold value, i.e., 0.4 suggested by Anderson and Gerbing (1988). Hence, the constructs are considered valid from the convergent validity point of view.

"Discriminant validity is demonstrated by evidence that measures of constructs that theoretically should not be highly related to each other are, in fact, not found to be highly correlated to each other" (Baumgartner & Homburg, 1996). "Discriminant validity coefficients should be noticeably smaller in magnitude than convergent validity coefficients. To establish discriminant validity, three approaches are used" (Hu & Bentler, 1995). First, square root of average variance extracted is calculated and compared with the correlation coefficients. The constructs will be considered valid with reference to discriminant validity if the "square root of AVE is greater than the correlation coefficient" (Sar, 2020). Second, AVE is compared with maximum shared variance (MSV) and average shared variance (ASV). A construct is valid if AVE is greater than both MSV and ASV (Hair, J.F., Anderson, R.E., Tatham, R.L. and Black, 1998). Third, correlation among the investigated constructs should be less than 0.7 in absolute terms. Finally, to test the fit of the measurement model, goodness of fit measures were computed based on the suggestion of Bagozzi and Yi (1988). Results from the analysis of data show discriminant validity of the constructs on all three approaches. The associated data are presented in Table 4.

Constructs	CR	Range of FL	C-α	AVE	MSV	ASV
INDC	0.952	0.749-0.903	0.951	0.821	0.386	0.186
IPRC	0.935	0.782-0.817	0.931	0.741	0.315	0.125
ORGC	0.926	0.799-0.852	0.921	0.762	0.388	0.138
COMC	0.836	0.894-0.913	0.833	0.562	0.386	0.125
SPC	0.951	0.851-0.891	0.952	0.831	0.159	0.059
IPR	0.847	0.812-0.846	0.841	0.586	0.386	0.093
COMP	0.954	0.801-0.902	0.953	0.713	0.075	0.029

Table 4: Reliability and Validity of Constructs

Notes: "CR - composite reliability; FL - factor loadings; C- $\alpha$  - Cronbach's alpha; AVE - average variance extracted; MSV - maximum shared variance; ASV - average shared variance"; INDC - individual conditions; IPRC - interpersonal conditions; ORGC - organisational conditions; COMC - community conditions; SPC - social and political condition; IPR - interpersonal relationships; COMP - community participation.

#### Structural Model: Estimation of Causal Model

"Structural equation modelling (SEM)" was used to evaluate the research model and test the hypothesised relationships between the constructs. The values of GFI, AGFI, NFI, CFI and RMSEA derived from the data analysis were found to be higher than the threshold values, establishing that the model fit is satisfactory. The hypothesis testing results covering hypothesis- wise beta values and p values indicating operational linkages among the constructs are presented in Table 5.

The results established significant relationship of individual conditions on social inclusion in the first cluster of hypothesis, such as individual condition with interpersonal relationship ( $\beta$ =-0.244 and p =0.001); and community participation ( $\beta$ =0.189 and p =0.002).

In the next set of hypothesis (H2a and H2b) the results established significant relationship of interpersonal condition with social inclusion, such as, interpersonal condition with interpersonal relationship ( $\beta$ =0.176 and p=0.001); and interpersonal condition with community participation ( $\beta$ =0.107 and p =0.023).

In the third set of hypothesis (H3a and H3b), the results established significant relationship of organisational conditions with interpersonal relationship ( $\beta$ =0.677 and p=0.001) and community participation ( $\beta$ =0.164 and p=0.004).

In the fourth set of hypothesis (H4a and H4b), the results established significant relationship of community conditions with interpersonal relationship ( $\beta$ =0.157 and p=0.001) and community participation ( $\beta$ =0.122 and p=0.007).

In the fifth set of hypothesis (H5a and H5b), the results established significant relationship of socio-political conditions with interpersonal relationship ( $\beta$ =0.237 and p=0.001) and community participation ( $\beta$ =0.692 and p=0.001).

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Hypothesis	β	р	Remarks
H1a	0.244	0.001	"Supported"
H1b	0.189	0.002	"Supported"
H2a	0.176	0.001	"Supported"
H2b	0.107	0.023	"Supported"
H3a	0.677	0.001	"Supported"
H3b	0.164	0.004	"Supported"
H4a	0.157	0.001	"Supported"
H4b	0.122	0.007	"Supported"
H5a	0.237	0.001	"Supported"
H5b	0.692	0.001	"Supported"

Notes: "β - estimates; p - significance value"

# DISCUSSION

The findings from the study help in gaining several insights into the impact of disabling conditions on social inclusion. The data supports all the hypotheses. This finding is consistent with the result of a systematic review of literature by Barclay et al (2015) using twenty-three studies.

First, the personal conditions of persons with spinal cord injury significantly impact the interpersonal relationships and community participation. Persons with severe mobility constraints and poor ability to manage bowel and bladder were found to be low in both interpersonal relationships and community participation. The finding is consistent with the result of the study by Carr et al (2017) concerning persons with spinal cord injury in Queensland, Australia.

Second, interpersonal relationships and community participation were strongly influenced by conditions such as relationship with family members, peers, and relationship between peers and family members. This finding is consistent with the result of a longitudinal study on social participation and well-being of persons with spinal cord injury (Fekete, Brinkhof, Tough, & Siegrist, 2017).

Third, organisational conditions such as socio-economic conditions; learning and development opportunities; access to common services and civic amenities; and, shared beliefs and values, strongly influence community participation and interpersonal relationships. The finding is consistent with the result of a systematic review of literature by Müller et al (2012), using seventy papers from six databases.

Fourth, community conditions, such as formal membership in community bodies; general attitude of members towards people with disability; physical support system; and, presence of a sense of sharing and caring, strongly influenced interpersonal relationships and community participation. The result is consistent with the finding of a study by Ahmed et al (2018) concerning community integration and life satisfaction of persons with spinal cord injury in Bangladesh.

Fifth, community participation and interpersonal relationships were strongly influenced by socio-political conditions such as awareness about the rights of people with disability; legal mechanism to protect the rights of people with disability; the availability of an affordable caregiver; and, the presence of activists/ NGOs to support the cause of people with disabilities. The finding is consistent with the result of the "German part of the International Spinal Cord Survey" with participation of 1479 persons with spinal cord injury (Sturm et al., 2020).

## CONCLUSION

Building on the Millennium Development Goals of the UN to promote social equity, the Sustainable Development Goal – 10 of the UN aims to promote "imagine the world in 2030, fully inclusive of persons with disabilities", besides promoting equality on other dimensions. The current study helps to gain meaningful insights into the dynamics of social inclusion of persons with spinal cord injury by deriving the drivers and reflections of social inclusion from a review of the literature, testing for validity and reliability of the constructs as presented in Table 4 and coefficients of correlation and regression presented in Table 2 and Table 5. The study can help policy-makers and civil society to objectively assess the current reality concerning community participation and interpersonal relationships, and work towards improving the same by addressing the personal, interpersonal, organisational, community and socio-political conditions, as the results show a strong impact of the drivers of social inclusion on the reflections of social inclusion.

#### REFERENCES

Abbott, S., & McConkey, R. (2006). The barriers to social inclusion as perceived by people with intellectual disabilities. Journal of Intellectual Disabilities, 10(3), 275-287. https://doi. org/10.1177/1744629506067618 PMid:16916851

Ahmed, N., Quadir, M. M., Rahman, M. A., & Alamgir, H. (2018). Community integration and life satisfaction among individuals with spinal cord injury living in the community after receiving institutional care in Bangladesh. Disability and Rehabilitation, 40(9), 1033-1040. https://doi.org/10.1080/09638288.2017.1283713 PMid:28637130

Anderson, J.C. Gerbing, D. W. (1988). Psychological Bulletin. Structural Equation Modelling in Practice: A Review and Recommend Two-Step Approach, 103(3), 411-423. https://doi.org/10.1037/0033-2909.103.3.411

Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. Psychological Bulletin, 103(3), 411-423. https://doi. org/10.1037/0033-2909.103.3.411

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. Journal of the Academy of Marketing Science, 16(1), 74-94. https://doi.org/10.1007/BF02723327

Barclay, L., McDonald, R., & Lentin, P. (2015). Social and community participation following spinal cord injury: A critical review. International Journal of Rehabilitation Research, 38(1), 1-19. https://doi.org/10.1097/MRR.00000000000085 PMid:25305008

Bates, P., & Davis, F. A. (2004). Social capital, social inclusion and services for people with learning disabilities. Disability and Society, 19(3), 195-207. https://doi.org/10.1080/0968759042000204202

Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. International Journal of Research in Marketing, 13(2), 139-161. https://doi.org/10.1016/0167-8116(95)00038-0

Beadle-Brown, J., Mansell, J., Cmbridge, P., Milne, A., & Whelton, B. (2010). Adult Protection of People with Intellectual Disabilities: Incidence, Nature and Responses. Journal of Applied Research in Intellectual Disabilities, 23(6), 573-584. https://doi.org/10.1111/j.1468-3148.2010.00561.x

Bigby, C., Knox, M., Beadle-Brown, J., Clement, T., & Mansell, J. (2012). Uncovering dimensions of culture in underperforming group homes for people with severe intellectual disability. Intellectual and Developmental Disabilities, 50(6), 452-467. https://doi.org/10.1352/1934-9556-50.06.452 PMid:23256688

Bourque, L. B., & Fielder, E. . (2003). How to Conduct Self-Administered and Mail Surveys. https://doi.org/10.4135/9781412984430

Carr, J. J., Kendall, M. B., Amsters, D. I., Pershouse, K. J., Kuipers, P., Buettner, P., & Barker, R. N. (2017). Community participation for individuals with spinal cord injury living in Queensland, Australia. Spinal Cord, 55(2), 192-197. https://doi.org/10.1038/sc.2016.169 PMid:27897188

Chenoweth, L., & Stehlik, D. (2004). Implications of social capital for the inclusion of people with disabilities and families in community life. International Journal of Inclusive Education, 8(1), 59-72. https://doi.org/10.1080/1360311032000139467

Clement, T., & Bigby, C. (2009). Breaking out of a distinct social space: Reflections on supporting community participation for people with severe and profound intellectual disability. Journal of Applied Research in Intellectual Disabilities, 22(3), 264-275. https://doi.org/10.1111/j.1468-3148.2008.00458.x

Clifford, S. (2013). A Narrative Inquiry of Self Advocacy: Rethinking Empowerment from Liberal Sovereignty to Arendtian Spontaneity. Disability Studies Quarterly, 33. https://doi.org/10.18061/dsq.v33i3.3244

Cobigo, V., Ouellette-Kuntz, Lysaght, R., & Martin, L. (2012). Shifting our conceptualization of social inclusion. Stigma Research and Action, 2, 75-84. https://doi.org/10.5463/sra.v1i3.45

Duggan, C., & Linehan, C. (2013). The role of "natural supports" in promoting independent living for people with disabilities; a review of existing literature. British Journal of Learning Disabilities, 41(3), 199-207. https://doi.org/10.1111/bld.12040

Duvdevany, I., & Arar, E. (2004). Leisure activities, friendships, and quality of life of persons with intellectual disability: Foster homes vs community residential settings. International Journal of Rehabilitation Research, 27(4), 289-296. https://doi.org/10.1097/00004356-200412000-00006 PMid:15572992

Fekete, C., Brinkhof, M. W. G., Tough, H., & Siegrist, J. (2017). Longitudinal study of social participation and well-being among persons with spinal cord injury and their partners (pro-WELL). BMJ Open, 7(1), e011597. https://doi.org/10.1136/bmjopen-2016-011597 PMid:28122827 PMCid:PMC5278270

Fornell, C. Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 35-90. https://doi.org/10.1177/002224378101800104 https://doi.org/10.2307/3151312

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50. https://doi.org/10.1177/002224378101800104 https://doi.org/10.2307/3151312

Forrester-Jones, R., Carpenter, J., Coolen-Schrijner, P., Cambridge, P., Tate, A., Beecham, J., ... Wooff, D. (2006). The social networks of people with intellectual disability living in the community 12 years after resettlement from long-stay hospitals. Journal of Applied Research in Intellectual Disabilities, 19(4), 285-295. https://doi.org/10.1111/j.1468-3148.2006.00263.x

Hair, J.F., Anderson, R.E., Tatham, R.L. and Black, W. C. (1998). Multivariate Data Analysis. Upper Saddle River, NJ: Prentice-Hall International Inc.

Hall, E. (2005). The entangled geographies of social exclusion/inclusion for people with learning disabilities. Health and Place, 11(2), 107-115. https://doi.org/10.1016/j.healthplace.2004.10.007 PMid:15629678

Hall, E., & Wilton, R. (2011). Alternative spaces of "work" and inclusion for disabled people. Disability and Society, 26(7), 867-880. https://doi.org/10.1080/09687599.2011.618742

Hall, S. (2009). The social inclusion of people with disabilities: A qualitative meta-analysis. Journal of Ethnographic and Qualitative Research, *3*, 162-173.

Heaney, C. A., & Israel, B. A. (2008). Social networks and social support. In Health behavior and health education: Theory, research, and practice, 4th ed. (pp. 189-210). San Francisco, CA, US: Jossey-Bass.

Hermsen, M. A., Embregts, P. J. C. M., Hendriks, A. H. C., & Frielink, N. (2014). The human degree of care. Professional loving care for people with a mild intellectual disability: An explorative study. Journal of Intellectual Disability Research, 58(3), 221-232. https://doi.org/10.1111/j.1365-2788.2012.01638.x PMid:23057560

Hu, L., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), Structural Equation Modelling (pp. 76-99). Sage Publications.

Johnson, H., Douglas, J., Bigby, C., & Iacono, T. (2009). Maximizing community inclusion through mainstream communication services for adults with severe disabilities. International Journal of Speech-Language Pathology, 11(3), 180-190. https://doi.org/10.1080/17549500902825265

Johnson, H., Douglas, J., Bigby, C., & Iacono, T. (2012). Social Interaction with Adults with Severe Intellectual Disability: Having Fun and Hanging Out. Journal of Applied Research in Intellectual Disabilities, 25(4), 329-341. https://doi.org/10.1111/j.1468-3148.2011.00669.x PMid:22711481

Mahar, A. L., Cobigo, V., & Stuart, H. (2013). Conceptualizing belonging. Disability and Rehabilitation, 35(12), 1026-1032. https://doi.org/10.3109/09638288.2012.717584 PMid:23020179

McConkey, R. (2007). Variations in the social inclusion of people with intellectual disabilities in supported living schemes and residential settings. Journal of Intellectual Disability Research, 51(3), 207-217. https://doi.org/10.1111/j.1365-2788.2006.00858.x PMid:17300416

McVilly, K. R., Stancliffe, R. J., Parmenter, T. R., & Burton-Smith, R. M. (2006). "I Get by with a little help from my friends": Adults with intellectual disability discuss loneliness. Journal of Applied Research in Intellectual Disabilities, 19(2), 191-203. https://doi.org/10.1111/j.1468-3148.2005.00261.x

Müller, R., Peter, C., Cieza, A., & Geyh, S. (2012). The role of social support and social skills in people with spinal cord injury-a systematic review of the literature. Spinal Cord, 50(2), 94-106. https://doi.org/10.1038/sc.2011.116 PMid:22006079

O'Brien, J., & Lyle, C. (1987). A framework for accomplishment. Decatur, GA. : : Responsive Systems Associates.

Overmars-Marx, T., Thomése, F., Verdonschot, M., & Meininger, H. (2014). Advancing social inclusion in the neighbourhood for people with an intellectual disability: An exploration of the literature. Disability and Society, 29(2), 255-274. https://doi.org/10.1080/09687599.2013.80 0469

Perring, G. (2005). The facilitation of learning-disabled arts a cultural perspective. In Bodies in Commotion: Disability and Performance (pp. 175-189).

Power, A. (2013). Making space for belonging: Critical reflections on the implementation of personalised adult social care under the veil of meaningful inclusion. Social Science and Medicine, 88, 68-75. https://doi.org/10.1016/j.socscimed.2013.04.008 PMid:23702211

Quinn, G., & Doyle, S. (2012). Getting a life: Living independently and being included in the community. Office of the United Nations High Commissioner for Human Rights, Regional Office for Europe.

Robertson, J., Emerson, E., Gregory, N., Hatton, C., Kessissoglou, S., Hallam, A., & Linehan, C. (2001). Social networks of people With mental retardation in residential settings. Mental Retardation, 39(3), 201-214. https://doi.org/10.1352/0047-6765(2001)039<0201:SNOPWM>2.0. CO;2

Sar, A. K. (2020). The dynamics of learning and growth perspective and dynamic capabilities: A study of Indian IT industry. International Journal of Knowledge-Based Development, 11(3). https://doi.org/10.1504/IJKBD.2020.112799

Schanz, C. G., Equit, M., Schäfer, S. K., & Michael, T. (2021). Convergent and Discriminant Validity of the Test of Passive Aggression in a Psychotherapy Outpatient Sample. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.723413 PMid:34925131 PMCid:PMC8671135

Simplican, S. C., Leader, G., Kosciulek, J., & Leahy, M. (2015). Defining social inclusion of people with intellectual and developmental disabilities: An ecological model of social

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networks and community participation. Research in Developmental Disabilities, 38, 18-29. https://doi.org/10.1016/j.ridd.2014.10.008 PMid:25543997

Sturm, C., Bökel, A., Korallus, C., Geng, V., Kalke, Y. B., Abel, R., … Gutenbrunner, C. M. (2020). Promoting factors and barriers to participation in working life for people with spinal cord injury. Journal of Occupational Medicine and Toxicology, 15(1), 37. https://doi. org/10.1186/s12995-020-00288-7 PMid:33334363 PMCid:PMC7745479

Thorn, S. H., Pittman, A., Myers, R. E., & Slaughter, C. (2009). Increasing community integration and inclusion for people with intellectual disabilities. Research in Developmental Disabilities, 30(5), 891-901. https://doi.org/10.1016/j.ridd.2009.01.001 PMid:19217252

Verdonschot, M. M. L., de Witte, L. P., Reichrath, E., Buntinx, W. H. E., & Curfs, L. M. G. (2009). Impact of environmental factors on community participation of persons with an intellectual disability: A systematic review. Journal of Intellectual Disability Research, 53(1), 54-64. https://doi.org/10.1111/j.1365-2788.2008.01128.x PMid:19093982