

Article

A societal adaptation model as a novel approach toward the recovery of people with schizophrenia

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Abstract

Introduction: People with severe mental disorders strain those involved, including families, societies, entire communities, and the government, due to decreased productivity. Understanding the roles to be played in caring for such people necessitates a societal adaptation process. Good adaptations boost societal resilience by caring for severe mental disorder sufferers. Therefore, this study aimed to create a societal adaptation model that would increase societal resilience in the care of people with schizophrenia.

Design and Methods: An observational analytic approach was applied with 205 society members living in the working area of the Community Integrated Health Center in Malang, East Java, Indonesia. Furthermore, several questionnaires were employed and analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM).

Results: According to the results, social adaptation was a significant indicator of societal adaptation. It was discovered that coping strategies influenced adaptation ($p=0.007$), society problem appraisal influenced coping strategies ($p=0.000$), and social support ($p=0.005$), while societal adaptation influenced societal resilience ($p=0.022$). The novelty of this study is that the societal adaptation model increases societal resilience in caring for people with schizophrenia, leading to a more adaptive community by increasing social capital.

Conclusions: In conclusion, the adaptation model improves societal resilience by increasing social capital and stigma prevention, thereby promoting participation in the sufferers' recovery process.

Introduction

Severe mental disorders strain all parties, including the government, families, and the community, because their productivity declines, leading to a significant financial burden for families and caregivers.^{1,2} The Indonesian government has made several efforts to manage people with severe mental disorders, by spending on

health services and removing shackles, which are both expensive. Consequently, some society members prefer to use alternative medicine, such as herbs, massage, and other traditional treatment options.³

In Indonesia, people with severe mental disorders are still mistreated and subjected to shackles. Since the sufferers have a relapse, their family decides to do confinement because of the inability to help overcome this situation. Furthermore, the family is embarrassed due to societies holding a negative stereotype of people with mental disorders.^{4,5} The associated stigmatization is commonly in form of demeaning, stereotyping, discriminating, insulting, blaming, isolating, avoiding, frustrating, and unhelpful behavior. This leads to negative social experiences such as isolation, rejection, marginalization, and discrimination. Hence, stigma impacts the sufferers' ability to improve medication adherence and access to appropriate and professional medical care.^{6,7}

Inappropriate treatment of the sufferers leads to symptoms exacerbation, which subsequently causes increased dependence, a worse response to treatment, and a higher burden on families, communities, and local governments. Such people who relapse require the best possible care and close monitoring for their health progress to be tracked.^{8,9}

A lack of community-owned resources, such as social capital, impacts how societies evaluate the occurring conditions. According to Truelove et al.,¹⁰ the society appraisal process related to treating people with severe mental disorders can be described by the Risk, Coping, and Social Appraisal (RCSA) model. Once there is a lack of resources in society, people help one another by sharing and assistance to meet their daily needs. In this case, the positive behavior displayed is influenced by the individual's positive perception of society and prevailing norms. RCSA explains how the three stages of social appraisal affect adaptation but fails to detail the societal adaptation process. According to Wong,¹¹ a Resource Congruence Model of Effective Coping states that the society achieves effective coping by using resources appropriately and suitably, however, insufficient resources lead to ineffectiveness. This model describes the coping strategies chosen by society, namely the usage of available resources.

Significance for public health

Many people with mental disorders serve as a catalyst for the community to rebuild and collaborate with the local government, related institutions, and stakeholders to expedite sufferers' recovery. Through the adaptation model, society is expected to treat people with severe mental disorders as partners rather than just listeners or recipients of the information disseminated. Once a problem phenomenon occurs in the surrounding environment, adaptive societies ought to respond well. This is viewed as a life challenge that needs to be overcome, not a threat. Positive beliefs influence social support and good coping strategies, making people more adaptable while dealing with mental disorder sufferers.

Social capital is one of the resources in the community, employed in treating people with severe mental disorders, and can be used to gain specific knowledge and skills.¹³ Aldrich and Meyer described this term as a resource formed from social relationships with other people.¹² Moreover, it is divided into three types, which are bonding, bridging, and linking social capital. The first type is a bond between emotionally close individuals, such as friends and family. It is important to note that more robust social ties provide social support and personal assistance in caring for people with mental disorders. The second is a bond formed within a particular social group due to differences in demographics and resources in society. This is specifically characterized by civic institutions and local government policies. Meanwhile, the third is a network connection between community members and the local government.^{12,14,15} Some components of social capital that are less optimal are the relationship between neighbors, tolerance towards people with mental disorders, and a proactive attitude. The interview results show a fear of community members to help neighbors who are mentally sick due to a feeling that the sufferers are not their relative or they are afraid of experiencing violent behavior.

Society is disrupted once several people living in the community with severe mental disorders relapse or worsen. Parsons describes the economic, political, legal, and cultural subsystems associated with four community functions, namely adaptation,

goal attainment, and integration, as well as maintenance and enforcement of community patterns plus structures (latent pattern maintenance). These four subsystems carry out their respective functions, but they are interconnected in realizing the social system as a whole.^{16,17}

The adaptation model developed in this study is linked to social resources, specifically social capital and stigma factors, which influence people's beliefs about the severity and vulnerability of sufferers. Societies with high collective efficacy, response efficacy, community identity, and strong norms influence the chosen coping strategy. Also, societies is capable of adapting become more resilient to assist people suffering from severe mental disorders. Understanding the societies' role in caring for the sick necessitates a societal adaptation process. Good adaptations boost societal resilience by caring for people with severe mental illnesses. Therefore, this study aimed to create a societal adaptation model meant to increase societal resilience in caring for people with schizophrenia.

The hypotheses considered include Hypothesis 1 (H1): Social capital affects problem appraisal; H2: Social capital affects social support; H3: Social capital affects societal adaptation; H4: Social capital affects societal resilience; H5: Stigma affects problem appraisal; and H6: Stigma affects societal resilience. Furthermore, H7: Problem appraisal affects coping strategy; H8: Social support

Table 1. Indicators for reflective measurement model constructs.

Indicator	Definition
Social Capital	The society owns social resources
X1.1 Social participation	Participation of the society in the treatment of people suffering from severe mental disorders
X1.2 Social network	A communication network is formed when people interact with one another to assist in caring for people suffering from severe mental disorders.
X1.3 Mutual help	Providing support for people with severe mental disorders.
X1.4 Trust	Society trust in the abilities of people with severe mental disorders
X1.5 Sense of belonging	People with severe mental disorders are inextricably linked to the society
Stigma	False society perceptions of people suffering from mental disorders
X2.1. Demeaning	The society's attitude toward people with mental disorders does not respect their dignity
X2.2. Stereotype	The incorrect society perception that people with mental disorders are dangerous and weak
X2.3. Discrimination	People's attitudes toward people with mental disorders in their surroundings
X2.4. Insulting	People's attitudes that denigrate the existence of people suffering from mental disorders
X2.5. Blame	People's attitudes judge, complain, and accuse others of having mental illnesses
X2.6. Exclude	People's attitudes that isolate people with mental illnesses in rural areas far from community settlements
X2.7. Dodging	People's attitudes toward, and interactions with, people suffering from mental illnesses
X2.8. Frustrating	People's attitudes that depress morale and make people with mental illnesses sad
X2.9. Unhelpful behavior	People's attitude refuses to assist people with mental illnesses in carrying out daily tasks.
Problem appraisal	Society perceptions of problems in the treatment of people with severe mental illnesses
Y1.1 Risk appraisal	The society perception of the threat associated with the treatment of people with mental disorders, consist of perception of severity and perception of probability
Y1.2 Coping appraisal	The society perception on how to address issues in the treatment of people suffering from mental disorders, includes collective efficacy and response efficacy
Y1.3 Social appraisal	Assessment of the society about social aspects in the care of people with mental disorders, includes society identification and perceived norms
Social support	All efforts made by the society to accept, provide opportunities for, and motivate people with severe mental disorders to be productive
Y2.1 Social integration	Giving people attention, opportunities, and time to do activities together so that they develop a sense of belonging
Y2.2 Attachment	Giving people with severe mental disorders a sense of security, tranquility, and peace to foster emotional closeness
Y2.3 Recognized by others	Recognizing and appreciating the abilities of people with severe mental disorders
Y2.4 Guidance	Providing information, advice, or assistance needed to meet the needs of people suffering from severe mental disorders
Y2.5 Rely on others	Helping people with severe mental disorders in the presence of other people when facing life's difficulties
Y2.6 Opportunity to develop self	Making it possible for people with severe mental disorders to be productive and feel needed by others
Coping strategy	The society problem-solving abilities assist with the day-to-day care of people with mental disorders
Y3.1 Healthcare policy	Community-based policies for the treatment of people with mental disorders
Y3.2 Social ties	Social bonds that form in the society

affects coping strategy; H9: Coping strategy affects societal adaptation; H10: Social support affects societal adaptation; H11: Coping strategy affects societal resilience; and H12: Societal adaptation affects societal resilience.

Design and Methods

An observational analytic approach was employed with 205 society members living in the working area of the Community Integrated Health Center in Malang, East Java, Indonesia. Also, the sample size was determined using a saturated sampling of 55 leaders, 60 mental health cadres, and 90 neighbors who interact with 30 people suffering severe mental disorders. All respondents consented to participate in this study, and they had the right to refuse without penalty.

In this study, the conceptual framework described the relationship between variables, namely social capital, stigma, problem appraisal, social support, coping strategies, societal adaptation, and societal resilience (Figure 1). The theoretical examination combined RCSA models according to Truelove *et al.* (2015),¹⁰ the Resilience Framework according to Windle and Bennett (2011),¹⁸ Resource Congruence Model of Effective Coping (Wong, 1993),¹¹ and society-to-cells resilience framework according to Szanton (2010).¹⁹

Figure 2 shows how social capital in the form of social participation and networks, mutual help, trust, and sense of belonging, impacts problem appraisal, social support, adaptation, and resilience. Stigma such as demeaning, stereotyping, discriminating, insulting, blaming, isolating, dodging, frustrating, and unhelpful behavior influences problem appraisal and societal resilience in caring for people with severe mental disorders. The societal adaptation process includes problem appraisal such as risk, coping, and

social appraisal. Perception of severity and probability is part of the risk appraisal, while collective and response efficacy is used to evaluate coping. The social appraisal process is mediated by society identification and perceived norms. Problem appraisal influences the societies' coping strategies during the adaptation process by involving care policies, social ties, mental health services, and the economy. Social support including social integration, attachment, recognition, guidance, reliance on persons, and self-development opportunities, impacts coping strategies and societal adaptation. Furthermore, coping strategies affect psychological and social societal adaptation as well as resilience. Societal resilience in treating people with mental disorders is boosted by good adaptation. Its components also include becoming stronger, reflecting and sharing learning, assisting other persons, and being socially organized, connected, locally interdependent, and reasonably profitable.

Moreover, several questionnaires were used and all instruments were valid and reliable based on Pearson correlation analysis at a 5% significance level, while Cronbach's Alpha coefficient was greater than 0.6. The definitions of all indicators for each variable can be seen in Table 1. Partial Least Squares-Structural Equation Modeling (PLS-SEM) was used to analyse the theoretical model of this study. Ethical approval was received from the Ethics Committee Board of the Faculty of Medicine at Universitas Muhammadiyah Malang (No. E.5.a/076/KEPK-UMM/IV/2019).

Results and Discussions

The current study aimed to determine the relationship between stigma, social capital and support, problem appraisal, societal adaptation and resilience, as well as coping strategies. Additionally, the proposed model assumed that several factors

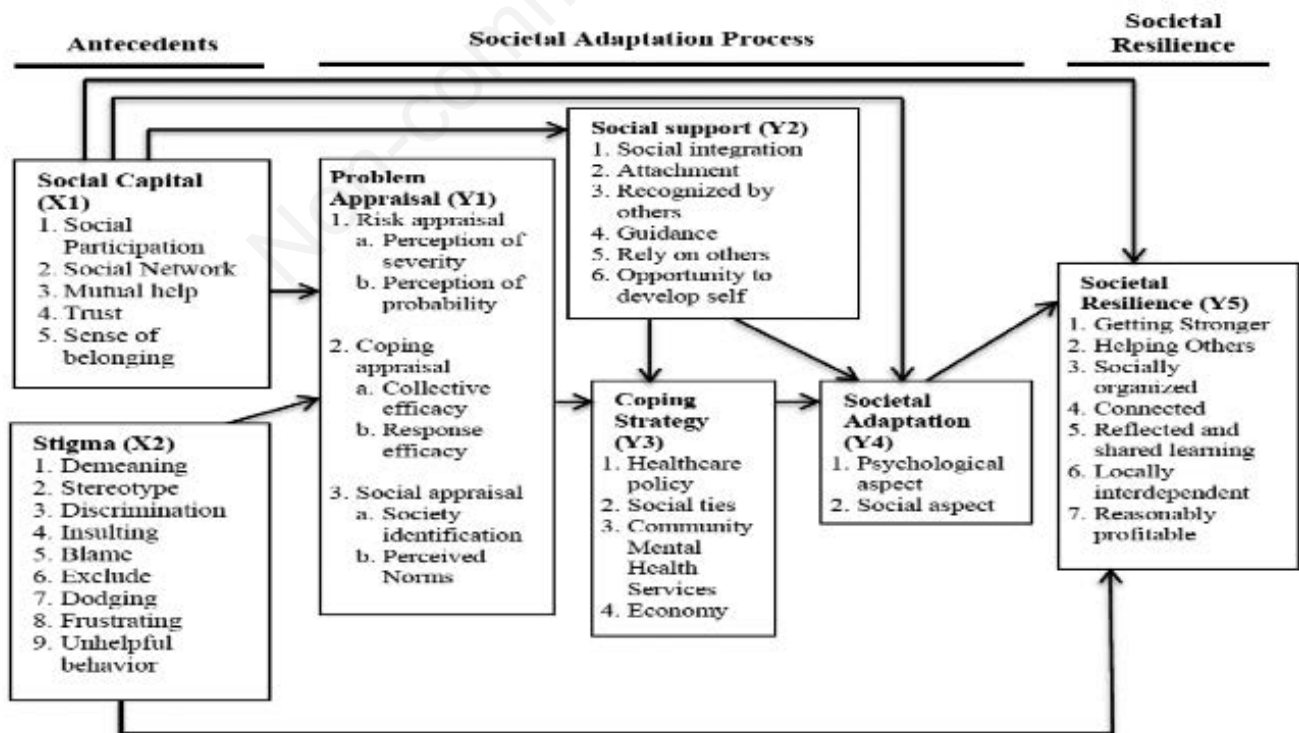


Figure 1. The conceptual framework of societal adaptation.

influence societal adaptation, including social capital and support, plus coping strategies. According to this model, societal adaptation affects societal resilience.

Measurement model evaluation

SmartPLS 3.0 evaluates the relationships between observed variables, outer loadings for the measurement model, structural model, path coefficients, and R2 values. Figure 3 shows the preliminary estimates of the PLS-SEM path model and several indicators on constructs with loading factors that were less than 0.6. In the subsequent analysis shown in Figure 4, all the indicators were removed. Besides, the values of Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha (CA) were used to assess the reflective measurement models' reliability and validity. At the initial values, Table 2 shows that Cronbach's alpha = < 0.6, AVE = < 0.5, composite reliability = < 0.7, and AVE = 0.5. After discarding the items with low loadings, all AVE values were found to be > 0.5, the composite reliability value was > 0.7, and Cronbach's Alpha was > 0.6. The constructs, in general, indicated the measures' reliability and convergent validity as well as the relationship between constructs based on the research hypothesis.

Structural model evaluation

Figure 5 shows that all t_{count} values are greater than the t_{table} value (1.96), meaning Figure 5 is the final path model. According to results, social adaptation is a significant indicator of societal adaptation. Table 3 shows the structural path model coefficients' results and their significance. Coping strategies were found to influence adaptation ($p=0.007$), while society problem appraisal influences their coping strategies ($p=0.000$) and social support ($p=0.005$). Furthermore, societal adaptation affects societal resilience ($p=0.022$). Table 4 shows that problem appraisal and social support are the strongest influence on coping strategy (50.5%). In the social sciences, small R2 values tend to have a significant impact. Studies that predict human behavior typically have an R-squared value of less than 50%.²⁰

According to Hypothesis1 (H1), social capital directly affects problem appraisal of 0.499 with a 0.000 p-value. This demonstrates that social capital improves problem appraisal in the societal adaptation model to increase societal resilience in caring for people with severe mental disorders. Social networks, mutual help, and trust are essential indicators of social capital that influence problem appraisal. The community in this study has a high level of social capital, which impacts healthy living behaviors by forming social norms and disseminating more helpful health information. Existing social networks are used to monitor and prevent adverse health behaviors as well as foster a sense of personal responsibility to maintain one's health for other people's sake. Consequently, the sick receive social, emotional, and practical support for quick recovery and effective treatment. Mutual trust and help, plus high participation, and social networks lead to improved self-esteem and psychological well-being.²¹

In agreement with H2, the results showed a direct positive effect of social capital on social support of 0.748 with a 0.000 p-value. This means social capital increases social support in the adaptation model to promote societal resilience in caring for people with severe mental disorders. The existence of social networks, a helping attitude, and a strong sense of mutual trust indicate that the community's social capital is outstanding in supporting sufferers' recovery. The kinship attitude and trust found in rural area inhabitants promote the growth of good social networks once community members need help. Also, social capital plays an essential role in growing social support. Communities provide social sup-

port based on the understanding that they are not alone in helping the sufferers. Social support is provided by friends, family, social networks, and the community using available resources.²² It is obtained from various forms of interpersonal relationships, through available bonding and bridging social capital. With bonding capital, the community obtains support based on similarities in character, both from friends and family. Meanwhile, bridging social capital is from relationships between societal groups, and can be found in heterogeneity or differences in ethnicity, status, socioeconomic class, and others.²³

H3 specifies that social capital had no direct effect on an adaptation of -0.314 with a 0.082 p-value. This means social capital does not directly increase adaptation in the adaptation model to promote societal resilience in the care of people with severe mental disorders. Social capital indirectly improves adaptation in two ways, namely (a) problem appraisal and coping strategies, and (b)

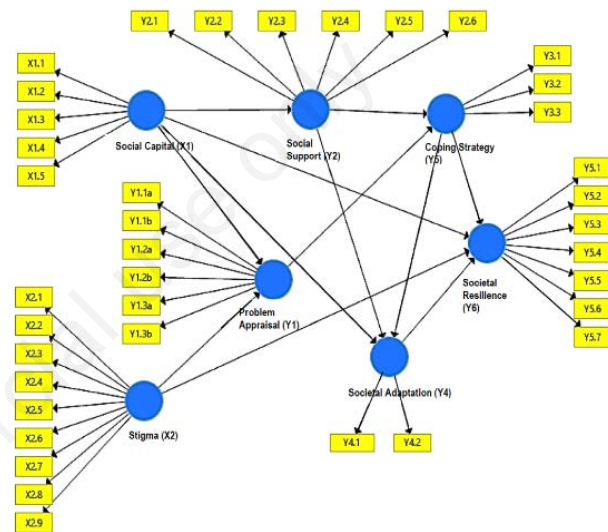


Figure 2. The theoretical path model of the study.

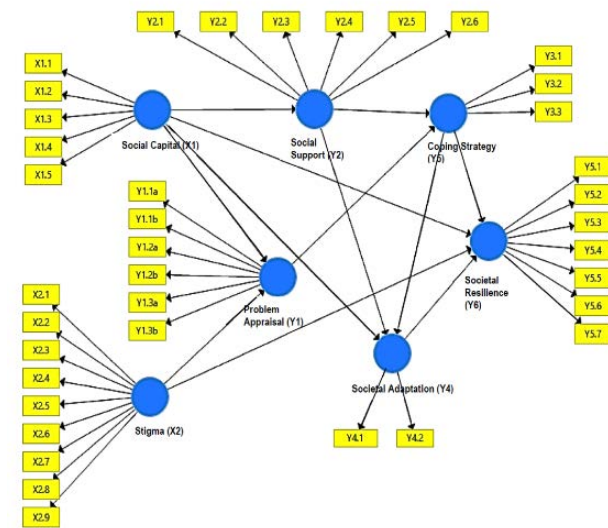


Figure 3. Analysis PLS-SEM path model first results.

social support and coping strategies. Adaptation is also defined as a collective decision made by individuals, groups, or organizations in a community. Collective adaptation is carried out on behalf of the community by the local government, sometimes to anticipate changes, but it cannot cancel individuals and groups' expectations. Hence, the adaptation process must incorporate the principle of interdependence among individuals, groups, and related institutions, for their available resources to be maximized.²⁴

In accordance with H4, social capital has a direct positive effect on societal resilience of 0.478 with a 0.000 p-value. This demonstrates that social capital improves societal resilience in the adaptation model in caring for people with severe mental disorders. People with high social capital, defined by mutual trust, norms, participation, and extensive social networks, recover more quickly and easily from problems, particularly those related to their ability to assist in the care of mentally sick people. Despite cultural and economic differences, societies that have higher social capital and community leadership are the most satisfied with the rapid recovery process. Mutual trust and dependence raise awareness of volunteer opportunities and responsibilities, thereby supporting collective efficacy, recovery, and adaptation responses.²⁵

According to H5, stigma does not affect problem appraisal of -0.290, with a 0.144 p-value. This indicates it does not affect the assessment of problems in the adaptation model as part of an effort to increase societal resilience. Besides, public perception is dynamic, and changes once people's awareness and level of knowledge shift. The main factors influencing people's perceptions are their level of knowledge, social networks, and social media influence.²⁶

In this study, H6 specifies that stigma did not affect societal resilience, with a 0.593 p-value. Many factors influence community stigma, including the decision-making power of community leaders. Subsequently, people's resilience increases once offered adequate knowledge about mental disorders and how to assist sufferers' daily care based on their respective roles. Stigma is reduced as the knowledge gained is shared with other persons and they work collaboratively to care for one another. Stigmatization of people with mental disorders reduces resilience which in turn reduces stigma. Sufferers' resilience is affected by a lack of access to the necessary treatment.^{27,28}

According to H7, problem appraisal has a direct positive effect on coping strategies of 0.504 with a 0.000 p-value. This demonstrates that it improves coping strategies in the adaptation model. Perceived severity, collective efficacy, society identification, and perceived norms are essential indicators in assessing problems for people with severe mental disorders. In social appraisal, society identification's presence and a sense of belonging have positively impacted how individuals deal with stress. A previous study discovered that once employees identify themselves at work, they have more effective coping strategies. The availability of support from people's surroundings influences how their identity and the coping strategies used are being recognized.²⁹

In agreement with H8, social support has a direct positive effect on coping strategies of 0.298 with a 0.005 p-value. This implies it improves coping strategies in the adaptation model to increase societal resilience in the care of people with severe mental disorders. Presence of social integration, the ability to rely on others and an opportunity to perform self-development for the community while rendering patient care, are essential indicators in building social support to ensure people have better coping strategies. Another study discovered a significant relationship between social support and coping strategies as well as overall mental health.³⁰

According to H9, coping strategies affect an adaptation of

0.290 with a 0.007 p-value. This denotes it boosts adaptation to increase societal resilience in the care of people with severe mental disorders. Community social and economic ties are essential indicators of coping strategies for adapting to mentally sick people. Coping abilities influence adaptation, but anxiety, depression, and low self-esteem are all factors affecting adaptability.³¹

H10 states that social support has no direct effect on an adaptation of 0.147 with a 0.382 p-value. This demonstrates that social support does not directly increase adaptation to promote societal resilience in the care of people with severe mental disorders. Through coping strategies, social support indirectly enhances adaptation. Societal adaptation is influenced by sociodemographic characteristics, resources, facilities, and infrastructure, as well as institutional, political, socio-cultural, cognitive, and psychological factors. Sociodemographic characteristics describe people's backgrounds that their adaptation is easier. For example, older people tend to have much life experience and adapt better even though they still use conservative principles based on previously understood beliefs. The availability of sufficient resources also influ-

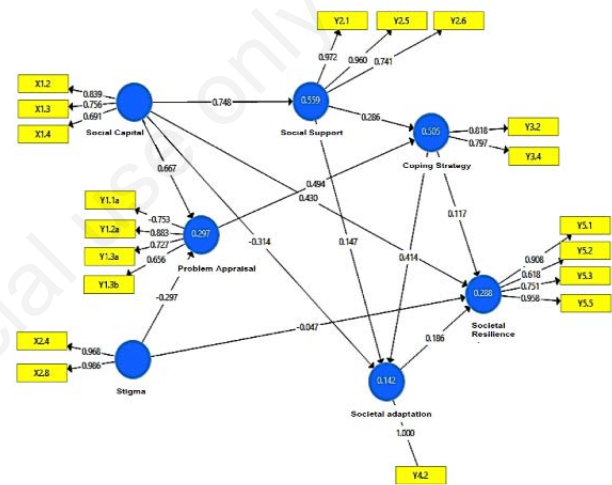


Figure 4. Analysis PLS-SEM path model improved.

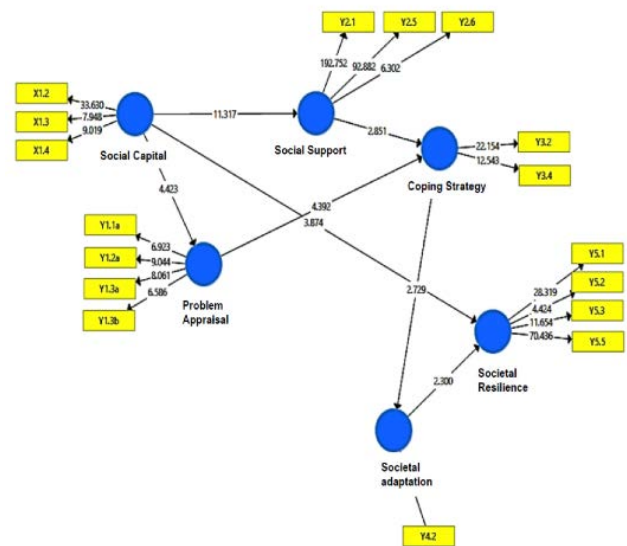


Figure 5. Analysis PLS-SEM path final model.

ences the community's ability to make decisions. Meanwhile, institutional and political factors explain how a community adapts, i.e. people follow once leaders set an excellent example of adaptation. Through habits and customs that the community believes in, socio-cultural factors influence their practices toward adaptation. Cognitive and psychological factors describe how people believe in assessing a current challenge. Therefore, once people perceive existing changes as a threat, the adaptation response displayed is more maladaptive.³²

According to H11, coping strategies have no direct effect on societal resilience, with a p-value of 0.338. Meaning that, in the adaptation model, coping strategies do not directly increase societal resilience in the care of people with severe mental disorders. This variable boosts societal resilience through adaptation, hence the process involved is critical for the community to complete to achieve resilience. Identifying social capital factors that influence problem assessment, coping strategies, and existing social support is the first step in the adaptation process. People with adaptive abil-

ity have greater resilience while caring for sufferers of mental disorders. Moreover, the quality of local government leadership and social capital are the most critical factors influencing societal resilience. This is specifically true for people living in poverty, where government regulations and policies are needed to achieve resilience. Another determinant of resilience is a high level of social capital.³³

H12 shows that adaptation has a direct positive effect on societal resilience with a 0.022 p-value. This implies it increases societal resilience in the care of people with severe mental disorders. Social adaptation is an important indicator in influencing societal resilience. Moreover, indicators of resilience include becoming stronger, reflecting and sharing learning, assisting other persons, and being socially organized while helping the sick. The novelty of this study is that the societal adaptation model increases societal resilience in caring for people with schizophrenia, leading to a more adaptive society by increasing social capital. The adaptation model promotes societal resilience in the treatment of mental dis-

Table 2. Reflective measurement model results.

Variables	AVE		Composite	Reliability		Cronbach's Alpha	
	Initial	Improved		Initial	Improved	Initial	Improved
Social capital	0.383	0.584		0.722	0.807	0.657	0.651
Stigma	0.227	0.955		0.191	0.977	0.756	0.954
Problem appraisal	0.418	0.576		0.594	0.575	0.298	0.261
Social support	0.489	0.805		0.773	0.924	0.622	0.880
Coping strategy	0.399	0.652		0.450	0.789	0.212	0.467
Societal adaptation	0.494	1.000		0.545	1.000	-0.093	1.000
Societal resilience	0.383	0.672		0.719	0.889	0.576	0.833

Table 3. Results of the structural path model coefficients.

Paths	Path coefficients	t	Sig.	Interpretation
Social Capital (X1) → Problem Appraisal (Y1)	0.499	4.423	0.000	Significant
Social Capital (X1) → Social Support (Y2)	0.748	11.317	0.000	Significant
Social Capital (X1) → Societal Adaptation (Y4)	-0.314	1.747	0.082	Not Significant
Social Capital (X1) → Societal Resilience (Y5)	0.478	3.874	0.000	Significant
Stigma (X2) → Problem Appraisal (Y1)	-0.290	1.465	0.144	Not Significant
Stigma (X2) → Societal Resilience (Y5)	-0.047	0.535	0.593	Not Significant
Problem Appraisal (Y1) → Coping Strategy (Y3)	0.504	4.392	0.000	Significant
Social Support (Y2) → Coping Strategy (Y3)	0.298	2.851	0.005	Significant
Coping Strategy (Y3) → Societal Adaptation (Y4)	0.290	2.729	0.007	Significant
Social Support (Y2) → Societal Adaptation (Y4)	0.147	0.876	0.382	Not Significant
Coping Strategy (Y3) → Societal Resilience (Y5)	0.117	0.960	0.338	Not Significant
Societal Adaptation (Y4) → Societal Resilience (Y5)	0.221	2.300	0.022	Significant

Table 4. Explanation of variance.

Constructs	R ²
Problem appraisal	0.297
Social support	0.559
Coping strategy	0.505
Societal adaptation	0.142
Societal resilience	0.288

order sufferers by increasing social capital and reducing stigma, therefore allowing people to participate in the recovery process.

A key-person in the community is thought to be the backbone in all decision-making aspects. This critical figure is the most influential, serving as an example and protecting the community, health care officers, and religious leaders. The described statement is consistent with a previous study which found that the community leaders' participation is required to improve the targeted goals. Community leaders serve as role models for society members, motivating the people to increase social participation and contribute to development implementation.^{34,35}

The process of societal adaptation in assisting mental disorder sufferers begins with identifying social capital factors that influence problem appraisal, coping strategies, and existing social sup-

port. People with adaptive ability have greater resilience while caring for those suffering from severe mental disorders.

Conclusions

It is concluded that treatment of people with severe mental disorders in the community is more effective once social capital, bonds, and integration are optimized because these resources promote better functioning. Therefore, sufferers, families, the community as a whole, and mental health service teams must be committed to providing support for mental health promotion.

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