Community Forest Association (CFA) Intervention's and Security Outcomes in Kirisia Forest, Samburu County

Omara Komora[1]*, Emily Okuto[2], Silas Idah[3]

National Defence University, Kenya

***Corresponding Author**

DOI: https://dx.doi.org/10.47772/IJRISS.2026.100600203

Received: 19 May 2026; Accepted: 25 May 2026; Published: 20 June 2026

ABSTRACT

Community Forest Associations (CFAs) can significantly alleviate disputes over land use, timber rights, and conservation by facilitating dialogue, decentralizing resource management, and integrating traditional local knowledge with national environmental policies. The study sought to establish the CFA intervention and security outcomes in Kirisia Forest, Samburu County. The study adopted a case study approach combining quantitative and qualitative research methods. Through a purposive and stratified questionnaire, the study selected 292 respondents. Structured questionnaires, key informant interviews, and focus group discussions were used for data collection and served as primary sources of information. Descriptive, correlational, and regression analyses were used to analyze numerical data. The findings of the study established a significant relationship between CFA intervention and security outcomes in Kirisia Forest, Samburu County. The study recommended that there is a need for integrating policies at the national level to involve the communities living around Kirisia Forest in conservation intervention, which is critical in peace building. CFA should be incorporated into county planning and budgeting in order to incorporate Kirisia Community Forest Association (K-CFA) as a critical partner in environmental conservation.

Keywords: Kirisia forest, CFA Intervention, Environmental Conservation, Security Outcomes

INTRODUCTION

Globally, forests play a significant role in environmental policy because of their climate regulation capacity and biodiversity conservation potential. Notably, there has been increased loss of forest and general vegetation cover especially in developing countries where uncontrolled logging, encroachment of the forest has been experienced. The situation has been exacerbated by the effect of climate change, further leading to decrease of vegetation cover, reduction in natural resources such as water and grazing ground especially for pastoralist communities. Hence this has contributed to conflicts and insecurity as these communities fight over resources.

The increasing relationship between environmental degradation and insecurity has led to the formation of environmental security theories, which argue that ecological security is an essential component of the security of both humans and states (Williams,2024). The degradation of natural resources, including forests, water sources, and biodiversity, is recognized to be one of the contributing factors to insecurity and, on the other hand, a result of insecurity. REDD+ and SDGs 13 and 15 emphasizes the critical role of forests in the struggle against climate change and conflict through community-based management (Agrawal, 2023).

Therefore, the management of the environment through Community Forest Association (CFA) has grown to be an important aspect in fostering peace, stability, and sustainable development. In Peru conservation interventions are integrating environmental peacebuilding and conflict sensitivity into its conservation programs by identifying what drives disputes and encouraging the communities living near the forest to form associations that can be incorporated in the forest management system (Bauza, 2023).In order to achieve lasting peace , a local

peacebuilding mechanism referred to Shared Forest Cooperatives (SFC), has been adapted for mitigating conflict in fragile states such as Yemen, Afghanistan and Syria among others (Williams,2024).

In some African countries, governments have seen the benefits of handing over forest areas to local communities under a variety of community forest management schemes, these includes Burkina Faso, Cameroon, and Tanzania as a strategy to attain local peace among the communities that live around major forests (Murdiyarso, 2024). Ignayev (2023) also pointed out that in Congo, environmental overuse and the exploitation of natural resources do not only increase the severity and duration of conflict but also make resolution much more difficult, thereby calling for more community involvement in conservation measures through CFA interventions.

In Kenya, environmental management policies have increasingly become an integral part of the state policy, leading to the enactment of the Forest Conservation and Management Act (2016) and allowing for community participation in environmental protection through Community Forest Associations (CFAs). This followed the earlier legislation of Article 69 of the Constitution of Kenya (2010), which stipulated the state guarantees sustainable utilization, management, and conservation of the environment. The National Climate Change Action Plan (NCCAP 2023-2027), the National Forest Programme, and Vision 2030, which view sustainable forest management as a crucial component of national security and socio-economic sustainability. Additionally, the CFAs are interventions that are required to complement the existing forest management as they work collaboratively with the Kenya Forest Service (KFS) in forest conservation and regeneration through PFM (Kibugi, 2023).

Statement Of Problem

The rising threat of global climate change is transforming the perception of security from conventional security threats to non-conventional threats like environmental destruction. In the case of Kenya, especially in ASALs, it has become evident that the threat posed by environmental degradation results in insecurity and socio-economic instabilities. Kirisia Forest in Samburu County is a prime example whereby degradation in the forest area has led to inter-community clashes arising from a lack of water and pasture. Although policy measures have been initiated through the Forest Conservation and Management Act (2016) and the creation of Community Forest Associations (CFAs), there are no adequate studies on how CFA interventions have impacted security outcomes in the areas that have adopted such models. The study therefore focused on the impact of Kirisia Community Forest Association (K-CFA) interventions on security outcomes in Kirisia Forest, Samburu County.

Objective Of the Study

The study sought to establish the CFA Intervention and Security Outcomes in Kirisia Forest, Samburu County.

i. Establish CFA Intervention in Kirisia Forest, Samburu County.
ii. Establish the effect of CFA Intervention and Security Outcomes in Kirisia Forest, Samburu County.

STUDY METHODOLOGY

The study adopted a case study research design and employed a mixed-methods approach that integrated both quantitative and qualitative techniques. This design was considered appropriate because it enabled an in-depth examination of environmental governance practices and their relationship with security outcomes within a real-life context, specifically the Kirisia Community Forest Association (K-CFA) in Samburu County, Kenya. The mixed-methods approach allowed for triangulation of findings, thereby enhancing the validity and robustness of the results through the integration of statistical evidence and contextual insights.

The target population comprised key stakeholders involved in forest governance and security, including members of the Kirisia Community Forest Association, community members residing adjacent to the forest, Kenya Forest Service officers, county government officials, and representatives of national security agencies. A total sample of 292 respondents was selected for the study. The study employed both purposive and stratified sampling techniques. Purposive sampling was used to identify key informants with direct knowledge and experience in

forest governance and security management, while stratified sampling ensured proportional representation of the different stakeholder categories within the study area.

Primary data were collected using structured questionnaires and key informant interviews. The questionnaires were designed using a five-point Likert scale ranging from strongly disagree to strongly agree and were administered to CFA members and households in the communities adjacent to the forest. Key informant interviews were conducted with selected officials from the Kenya Forest Service, county government departments, and national security agencies to obtain detailed institutional and policy-level perspectives. Prior to the actual data collection, the research instruments were pre-tested in a pilot study conducted in a community with similar socio-ecological characteristics to the study area. This process ensured clarity, improved question formulation, and enhanced the validity and reliability of the instruments.

Quantitative data were coded and analyzed using statistical software, where both descriptive and inferential statistical techniques were applied. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data, while inferential statistics, including correlation and multiple regression analysis, were employed to examine the relationship between environmental governance practices and security outcomes. Regression analysis was particularly used to determine the magnitude and direction of influence of governance variables on security outcomes in Kirisia Forest.

Qualitative data obtained from key informant interviews were analyzed using thematic analysis. This involved transcription of interviews, coding of responses, identification of patterns, and development of themes aligned with the study objectives. The integration of qualitative and quantitative findings was undertaken during interpretation to provide a comprehensive understanding of the research problem.

To ensure validity and reliability, the study instruments were reviewed by experts in environmental governance and security studies. Reliability was further assessed using Cronbach's alpha coefficient, with all constructs meeting the acceptable threshold of 0.70, indicating internal consistency. Ethical considerations were strictly observed throughout the study. Informed consent was obtained from all participants, confidentiality was maintained, and participation was entirely voluntary, with respondents free to withdraw at any stage without any consequences.

THEORETICAL REVIEW

The study was anchored on the Common Pool Resources (CPR) Theory and the Environmental Security Theory, which provided the conceptual foundation for examining the relationship between community-based environmental governance and security outcomes in Kirisia Forest.

Common Pool Resources (CPR) Theory

The Common Pool Resources (CPR) Theory was developed by Elinor Ostrom, who provided a comprehensive explanation of how communities can collectively manage shared resources in a sustainable manner. The theory explained how local communities organized themselves to develop institutions, rules, and collective action mechanisms to govern common pool resources and prevent overexploitation.

In this study, the Kirisia Community Forest Association (K-CFA) was understood to have functioned as a local institutional arrangement through which communities organized themselves to manage and conserve forest resources. Through collective action, monitoring, and rule enforcement, the CFA contributed to the sustainable use of forest resources and the reduction of resource-based conflicts. The theory therefore provided a basis for understanding how community-based institutions influenced environmental governance and security outcomes in Kirisia Forest.

Environmental Security Theory

The Environmental Security Theory, developed by Thomas Homer-Dixon (1999), posited that environmental scarcity arising from resource depletion, population pressure, and unequal resource distribution could lead to social tensions and conflict. The theory shifted the focus from environmental conservation alone to the broader relationship between environmental change and security outcomes.

Environmental degradation was conceptualized as a "threat multiplier" that exacerbated existing social, economic, and political vulnerabilities, thereby increasing the risk of conflict, particularly in resource-dependent communities. This perspective was supported by contemporary global assessments which emphasized that environmental degradation intensified insecurity (UNEP, 2022; IPCC, 2023).

In this study, CFA activities were understood as environmental governance interventions that not only supported conservation but also contributed to peacebuilding and conflict reduction among communities living around Kirisia Forest. These interventions played a role in reducing resource-based conflicts and improving local security outcomes.

The two theories complemented each other in explaining the study phenomenon. The CPR Theory explained how community institutions were formed and how they governed shared forest resources, while the Environmental Security Theory explained how environmental governance influenced conflict dynamics and security outcomes. Together, they provided a strong framework for understanding how environmental governance practices shaped security conditions in Kirisia Forest.

LITERATURE REVIEW

CFA Interventions

Community intervention in forest management is a key strategy to sequester atmospheric carbon and conserve biodiversity while providing livelihood co-benefits for indigenous peoples and local communities in Asia and Latin America (Fischer, Chhatre, and Duddu, 2023). These interventions in forest management through CFA have been adapted in an estimated 14% of all forest management in developing countries, three times more than 12 years ago (Fischer et al., 2023). In Indonesia and the Philippines, community intervention through local forest management has engaged three upland communities in Indonesia and the Philippines in the implementation of a global convention that also integrates natural resources and community-based forestry (DeFries, Achard, and Brown, 2019). In Africa, Bissau, Mali, Senegal, Tanzania, and Uganda, with the assistance of local NGOs, communities are already intervening in local forest management, as the communities that are already engaged in local forest management are trained in the use of a small, hand-held computer with global positioning and geographic information systems equipment, which enables them accurately to map the boundaries and the strata in the forest (Murdiyarso, 2024). In Kenya, community interventions through CFAs remain critical in protecting the forest and restoring forest cover, especially in pastoralist communities that are always over resources (Majalia and Akello,2025).

Effect of CFA Intervention and Security Outcomes

Community interventions through CFAs can contribute to the creation of enabling environments for peace by preventing conflict escalation and by contributing to post-conflict reconstruction as communities living around the forest feel part of the conservation of the forests. In response to frequent forest resource conflicts and gridlocks, forest communities throughout the USA began forming collaborative groups and otherwise building local capacity to handle the impacts of resource management decisions and practice, and the Forest Service adopted ecosystem management as the foundation of its new policy and management style (Wilmsen and Isom, 2003). Forests have multiple and often competing constituencies for commercial, subsistence, and cultural uses, and therefore they are frequently the center of conflicts, and communities fight over the control of access and use of the forest resources in Nepal (Harwel, 2019). Alusiola, Froese, and Schilling (2025) established a pathway connection between community forest association interventions, cooperative outcomes, and peacebuilding in

Ghana; however, they feared that while CFAs can effectively reduce resource competition and empower local peacebuilding, they can also trigger intra-community tensions over benefit sharing, land tenure, and stakeholder boundaries. Locally, evidence points to deep-rooted engagement of the local community in managing natural resources, indicating that community participation in forestry and land use management has had a significant effect on local security in Baringo (Lekisemon and Mbataru,2025).

FINDINGS AND DISCUSSION

Response Rate

Table 4.1 Response Rate

Stakeholder Group		**Proposed Sample Size (F)**	**Responded (F)**	**Did not Respond (F)**	**Response Rate (%)**
Questionnaires	CFA Members	94	91	4	96.8
	Forest Adjacent Community Members	168	138	30	82.1
Key Interviews	Kenya Forest Service (KFS) Staff	10	8	2	80.0
	County Government Officials	10	7	3	70.0
	National Government Security Agencies	10	8	2	80.0
Total		**292**	**252**	**40**	**86.3**

Source: Field Data (2025)

The findings of the study indicated that the average response rate of 86.3%. The findings of the study established that out of the 292 respondents targeted by the study, 252 participated in the study, where 96.8% of the targeted CFA Members participated in the study, out of the targeted Forest Adjacent Community Members 82.1% participated,80.0% of the Kenya Forest Service (KFS) Staff and National Government Security Agencies of the total targeted participants also participated in the study. Additionally, 70% of the targeted county Government Officials and National Government Security Agencies also participated in the study. The average response rate of 86.3% is considered appropriate according to Gatwiri (2020) that a survey response of 65% and above is representative.

Demographic Information

Table 4.2 L Demographic Information of the Respondents

Characteristic	**Category**	**Frequency**	**Percentage**
Gender	Female	129	51.7%
	Male	123	48.3%
Age Group	18-25	46	18.3%
	26-35	65	25.8%
	36-45	60	24.2%
	46-55	50	20.0%
	56+	31	11.7%
Primary Livelihood	Pastoralism/Livestock	176	70.0%
	Crop Farming	17	6.7%
	Beekeeping	25	10.0%
	Small Business/Trade	21	8.3%
	Formal Employment	13	5.0%

Proximity to Forest	<2 km	113	45.0%
	2-5 km	100	40.0%
	>5 km	39	15.0%
Respondent Category	CFA Members	138	54.7%
	Forest Adjacent Community Members	91	36.1%
	Kenya Forest Service (KFS) Staff	8	3.1%
	County Government Officials	7	3.0%
	National Government Security Agencies	8	3.1%

Source: Field Data (2025)

The results indicated that 51.7% of the respondents were female and 48.3% were male. From the study, it can be concluded that there were more females than male participant in forest conservation. This can be explained by the fact that most of the people who are involved in the direct activities in the forest are female. 18.3% were aged between 18-25 years, 25.8% were 26-35 years old, while 24.2% of the respondents were 36-45 years old. Additionally, the results indicated that 20.0% of the study participants were aged between 46-55 years old while another 11.7% 56 years and above years old. This showed that different ages were included in the study ensuring that if engaged in the management of the forest then, all ages would be involved.

The results also indicated that 70.0% were Pastoralism/Livestock, 6.7% were engaged in Crop Farming, 10.0%Beekeeping, 8.3% Small Business/Trade while another 5.0% of the respondents were in formal employment in various organizations. This showed that many of the respondents were Pastoralism or kept Livestock and engaged grazing of their livestock in the forest and therefore key in the protection of the forest. Additionally, the results indicated that 45.0% of the respondents lived in less than two kilometres away from the forest, 40.0% lived in between 2-5 Kilometres away from the forest while 15.0% of the respondents lived in more than five kilometres away from the forest. This showed that most of the participants in the study lived in five or less kilometres near the forest. Finally, the results indicated that 54.7% of all the study participants were CFA Members, 36.1% were Forest Adjacent Community Members, 3.1 were Kenya Forest Service (KFS) Staff, another 3.0% were County Government Officials while another 3.0% were National Government Security Agencies

Table 1: CFA Interventions

Intervention Indicators	SA&A	Neutral	SD&D	Mean	StDV
K-CFA has establishment Joint community peace committees	153(66.9)	64(27.9)	12 (5.2)	3.93	.927
K-CFA has established resource sharing mechanism	162(70.7)	49(21.4)	18(7.9)	3.91	.896
K-CFA has ensured adequate representation of community interest in decision making	158(69.0)	48(21.0)	23(10.0)	3.81	1.006
K-CFA ensure timely intervention when conflict between communities that live near the forest arise	164(71.7)	50(21.8)	15 (6.6)	3.97	.936

Source: Field Data (2025)

The results indicated that K-CFA has established joint community peace committees, as represented by 66.9% of the respondents, with a mean of 3.93 and a standard deviation of .927, while K-CFA has established a resource-sharing mechanism, as indicated by 70.7% of the respondents, with a mean of 3.91 and a standard deviation of .896. Additionally, K-CFA has ensured representation of community interest in decision-making while also ensuring timely intervention when conflict between communities that live near the forest arises, as indicated by 69.0% and 71.7% of the respondents, who also registered a mean of 3.97 and 3.97 and a standard deviation of 1.006 and .936, respectively.

Table 2: Impact of K-CFA Interventions

Security Indicators	SA&A	Neutral	SD&D	Mean	StDV
Conflicts between communities over water have reduced	152(66.3)	34(14.8)	43(18.8)	3.65	1.148
Conflicts between communities over pasture are minimal	164(71.6)	40(17.5)	25(10.9)	3.88	1.017
Cattle rustling has been reduced as the forest is no longer safe for rustlers to hide	181(79.1)	25(10.9)	23(10.0)	4.07	1.100
Conflicts over resources from the forest are easily resolved through conflict resolution committee in the CFA	188(82.1)	31(13.5)	10(4.4)	4.22	.931

Source: Field Data (2025)

Results also indicated that conflicts between communities over water have reduced because of K-CFA activities, as represented by 66.3% of the respondents with a mean of 3.65 and a standard deviation of 1.148, while conflicts between communities over pasture are minimal as K-CFA continues to engage in environmental governance of the forest that has positively impacted peace and security in the area, as indicated by 71.6% of the respondents with a mean of 3.88 and a standard deviation of 1.017. Additionally, cattle rustling has been reduced as the forest is no longer safe for rustlers to hide while conflicts over resources from the forest are easily resolved through the conflict resolution committee in the CFA, as indicated by 79.1% and 82.1% of the respondents; that also registered a mean of 4.07 and 4.22 and a standard deviation of 1.100 and .931, respectively.

Table 3: Effect of CFA Intervention and Security Outcomes in Kirisia Forest, Sambura County

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	94.082	4	23.520	97.656	.0001
	Residual	53.950	224	.241		
	Total	148.032	228			

a. Dependent Variable: Y

b. Predictors: (Constant), X1, X2, X3, X4

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
	.797[a]	.636	.629	.49076	.636	97.656

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	.656	.190		3.456	.001
	Establishment of Joint community peace committees	.065	.050	.069	1.287	.020
	Establishment of resource sharing mechanism	.187	.111	.101	1.681	.044
	Representation of community interest in decision making	.215	.088	.209	2.435	.016
	Timely intervention when conflict between communities that live near the forest arise	.453	.082	.482	5.509	.001

Source: Field Data (2025)

The ANOVA test indicates a p-value which is less than 0.05 (Sig= .000< .05) which shows that there is a significance relationship between CFA intervention (establishment of joint community peace committees, establishment of resource sharing mechanism, representation of community interest in decision making, timely intervention when conflict between communities that live near the forest arise) and security outcome in Kirisia forest in this study. The (F=97.656; 4, 224) also showed that the model was statistically fit to measure the relationship between Environment Governance Practices (establishment of joint community peace committees, establishment of resource sharing mechanism, representation of community interest in decision making, timely intervention when conflict between communities that live near the forest arise) and security outcome in Kirisia forest.

The coefficient determinant (R Squared) of .629 implies that 62.9% of the changes in security outcome in Kirisia forest are explained by CFA intervention (establishment of joint community peace committees, establishment of resource sharing mechanism, representation of community interest in decision making, timely intervention when conflict between communities that live near the forest arise). The other 37.1% is attributed to other factors not included in the study other than CFA intervention (establishment of joint community peace committees, establishment of resource sharing mechanism, representation of community interest in decision making, timely intervention when conflict between communities that live near the forest arise).

Y= .656+ .065X1+.187X2+.390X3+.109X4+.109X5

The above equation can be interpreted as follows:

A unit change of .276 in establishment of joint community peace committees, .187 in establishment of resource sharing mechanism, .215 in representation of community interest in decision making and. 453 in timely intervention when conflict between communities that live near the forest arise will result in a unit change in security outcome in Kirisia forest. The findings also indicate that the regression model (ß= .656) is statistically significant (sig=.000< .05). Further, the findings show that CFA intervention (establishment of joint community peace committees, establishment of resource sharing mechanism, representation of community interest in decision making, timely intervention when conflict between communities that live near the forest arise) (Sig= .000< .05) is statistically significant.

The finding indicated that while all the CFA interventions factors had a significant influence on security outcome in Kirisia forest, timely interventions when conflict between communities that live near the forest arise had the highest significance influence, followed by representation of community interest in decision making, and then establishment of joint community peace committees. Establishment of resource sharing mechanism had the least significant effect on security outcome in Kirisia forest.

DISCUSSION

One of the interventions of K-CFA had formed joint community peace committees that help in peace mediation, even as the CFA established resource-sharing mechanisms among the communities living near the forest. K-CFA also ensures representation of community interest in decision-making while also ensuring timely intervention when conflict between communities that live near the forest arises the benefits that are associated with community interventions in the management through CFA cannot be overemphasized as indicated in the levels of its adaptation that point to an increase of three times more compared to 12 years ago as cited by Fischer et al. (2023). The results also support a study by Majalia and Akello (2025) that pointed out that community interventions through CFAs remain critical in protecting the forest and restoration of forest cover, especially in pastoralist communities that are always fighting over resources.

The results also indicated that conflicts between communities over water have reduced because of K-CFA activities and that conflicts between communities over pasture are minimal as CFA continues to engage in environmental governance of the forest. This in turn has positively impacted peace and security in the area. The results support findings by Alusiola (2025) that established pathways connecting community forest association interventions, cooperative outcomes and peacebuilding. The results are consistent with the findings by

Lekisemon and Mbataru (2025) that community participation in forestry and land use management has had a significant effect on local security. The results indicated cattle rustling has been reduced as the forest is no longer safe for rustlers to hide while conflicts over resources from the forest are easily resolved through conflict resolution committee in the CFA.

CONCLUSION

The finding indicated that while all the CFA intervention factors had a significant influence on security outcome in Kirisia forest, timely interventions when conflict between communities that live near the forest arise had the highest significance influence, followed by representation of community interest in decision making, and then establishment of joint community peace committees. Establishment of resource sharing mechanism had the least significant effect on security outcome in Kirisia forest.

RECOMMENDATIONS

Ministry of Interior and the County Government of Samburu, needs a resource distribution policy that incorporates funding for CFA. Adequate budgetary allocations should be made available at national level in order to ensure that funds are available at local level to support the operations of CFAs that are crucial in forest conservation, especially in ASAL regions that are affected not only by frequent drought but also by resource intercommunity conflict. Lastly, CFA should be incorporated into county planning and budgeting in order to incorporate K-CFA as a critical partner in environmental conservation.

REFERENCES

1. Alusiola, R. A., Froese, R., Schilling, J., & Klär, P. (2025). Identifying peace pathways: how can forest conservation contribute to environmental peacebuilding? Climate and Development, 4 (5)1–15.
2. Bauza,L (2023)When protecting nature helps build peace, Conservation International, UK
3. DeFries, R., Achard, F., Brown, S (2019)Reducing greenhouse gas emissions from deforestation in developing countries: considerations for monitoring and measuring. J. Environ. Sci. and Policy 6(4)56-78
4. Fischer, H.W., Chhatre, A., Duddu, A. (2023) Community Forest governance and synergies among carbon, biodiversity and livelihoods. Nat. Clim. Chang. 13, 1340–1347
5. Harwell, E (2019). Forests in fragile and conflict-affected states, Program on Forests (PROFOR), Washington DC.
6. Ignayev, K (2023) Environmental peacebuilding, Peace Direct,UK
7. Lekisemon ,K and Mbataru,P (2025) Community Engagement In Natural Resource Conservation And Security Management In Baringo County, Kenya, Journal of Social Science and Humanities, 6(1) 681 – 698
8. Murdiyarso, D (2024) Community Forest Management as a Carbon Mitigation Option; Case studies, Center for International Forestry Research, Jl. CIFOR, Situ Gede, Sindang Barang, Bogor Barat 16680, Indonesia
9. Wilmsen,C and Isom,J.E (2003) Community forestry and community well-being in the United States, XIII World Forest Congress, Quebec City, Canada.
10. Williams,C.G (2024) A forest peacebuilding mechanism for the world's most fragile states, Environmental Science & Policy, 157 (1),56-78