

Analysing the relationship between traumatic biographical events and the current structural functioning of personality

L. Schiltz & J. Schiltz

Summary

We present the general structure of a multi-annual research project. Our general expectancy concerns the possibilities of arts psychotherapy as a means of launching the blocked process of subjectivation with people suffering from exclusion, precarity and marginalization.

The research project follows a complex research design with a sequential strategy, the first part consisting in an integrated psychosocial and clinical study using a mixed methodology. We constructed special rating scales for the analysis of the data of a semi-structured biographical interview and also for the holistic interpretation of the Rotter Blank Sentences Test, separating the associations to sentences beginning with the third and first person.

The correlations between two sets of variables (biographical interview and Rotter test) were computed for the total experimental group (N = 206), and for clinical subgroups. We shall analyse the matrices of correlations (Spearman's Rho) with the help of optimal scaling procedures (OVERALS).

The links between traumatic biographical events and responses to the 3rd, respectively 1st person items of the Rotter test are interpreted in terms of unconscious versus conscious psychological processes and allow us analysing the expression of defence mechanisms and coping strategies.

The results of the study are discussed in the light of the recent traumatogenic hypothesis of borderline functioning.

Key-words: biographical interview, defence mechanisms, non linear canonical correlation analysis, Rotter Blank Sentences Test, structural psychopathology, trauma.

1. Introduction

People suffering from exclusion and marginalization often present a disrapture of identity and prodromic phases of psychotic disorders. Among them the following syndromes are frequently met:

- Initial schizophrenia which may be mixed up with low level borderline functioning (1, 2)
- Drug induced psychoses (3, 4)
- PTSD coupled with delusional ideas (5-7)
- Depression coupled with delusional ideas (8, 9)

Especially among refugees the last mentioned state is widespread. Studies in ethno-psychiatry show that the cultural model of persecution linked to depression is very frequent in African societies. Depression coupled with delusional ideas of persecution is for instance a frequent state in Cameroun, where the cultural pressure pushes people to look for an exogenic personified agent causing their illness (10).

Among homeless and unemployed people presenting a state of long lasting resignation and demotivation, a high percentage of chronic psychotic disorders have been identified (11-14).

What is the impact of stressful biographic events on those disorders and to which extend are the symptoms reversible? According to Zubin (15), a stressing event going beyond the critical level of vulnerability results in a psychotic episode. In clinical literature focussed on borderline personality organization the impact of personal biography is frequently mentioned. Gunderson's (16, p. 295) investigation of the etiological theories of borderline personality organization retained the following relevant tracks: excessive aggressivity, abandonment anxiety, affective deregulation, a specific disorder of attachment, a complex posttraumatic stress syndrome. All these theories are based on the pre-eminence of environmental factors; only the third one considers constitutional components.

The historical evolution of the comprehension of psychosis (17) and borderline functioning (1) and especially the concept of vulnerability (15) has led to a greater therapeutic optimism concerning the reversibility of psychotic symptoms, at least in prodromic states of psychosis. The hypothesis of a continuity between low level borderline functioning and acute manifestations of psychosis (1, 18) leads to the same conclusion.

2. An integrated clinical and experimental multi annual research project

The aim of the research project consists in investigating the links between disastrous life events and the present personality organization, with several subgroups of people suffering from deprivation, exclusion and marginalization. Original re-

search tools were developed in this context. With the help of multidimensional non parametric statistics, differential personality profiles were extracted. In a perspective of tertiary prevention we are offering exploratory arts therapeutic sessions to the marginalized persons, with the goal of investigating the indicators of a possible restart of their subjectivation process.

The study followed a sequential research design:

- a) The first part consists in an integrated psychosocial and clinical study of people suffering from exclusion, marginalization and deprivation, i.e. homeless people, long term unemployed people, refugees and asylum seekers, drug addicts, prisoners. (N = 206)
- b) The second part of the study is focussed on the evaluation of the arts therapeutic sessions offered to these persons. The theoretical elaboration of the results of the study will consider especially the recent traumatogenic hypotheses of borderline functioning and psychosis
- c) The third part consists in testing our theoretical modelizations with new samples.

General expectations:

The status of our research project is exploratory. We try to answer the following questions:

- Do our results support the traumatogenic hypothesis of borderline functioning?
- Are there links between the current functioning of personality on the structural level and psycho-traumatic events from the beginning of live versus traumatic break-down of live projects due to exterior catastrophes?
- Is it possible to extract indices of a resumption of the blocked process of subjectivation during arts therapeutic interventions?

3. Presentation of the rating scales

The psychosocial and clinical study is based on a mixed methodology, combining a semi-structured biographical interview, the Hamilton Anxiety and Depression Scale (19), the Index of Well-Being of Campbell (20) and the Rotter Blank Sentences Test (21).

For the Rotter test we developed a method of interpretation linked to the phenomenological and structural approach (22); it allowed us estimating the status of the Ego Ideal and considering some fundamental diagnostical dimensions such as archaic aggressivity, pathological narcissism, anaclitic objectal relationship and essential depression (23-24). In the rating scale we separated the association to the sentences beginning with the third person and those beginning with the first per-

son. The responses to the third, respectively first person items can be interpreted in terms of unconscious versus conscious, psychological processes. Thus we can analyze the expression of defence mechanisms and coping strategies through the Rotter test.

Table 1: Rating scales for the Rotter test and the Biographic Interview

Rating scales	General Objective	General dimensions
Rotter test	Investigation of the current functioning of personality at the structural level	Self concept, Ego Ideal, Professional and private goals, Current personal relationships
Biographic interview	Investigation of the traumatic events from the beginning of life	Life course, Nature of trauma, Composition of initial family, Period of suffering, Current emotional support

Our expectancy was that the multidimensional analysis of the links between these research tools could throw some light on the traumatogenic hypothesis of borderline functioning and psychotic break-down.

4. Presentation of the clinical sample

Table 2: Distribution of the participants between the clinical subgroups

Subgroup	Frequency	Percentage	Gender	Age
Homeless people	70	34%	M: 58 F: 12	42,73 (SD =11,43)
Drug addicts	73	35,4%	M: 52 F: 11	31,21 (SD=7,62)
Refugees and asylum seekers	63	30,6%	M: 68 F: 5	37,19 (SD=13,05)
Total	206	100%	M: 178 F: 28	37,24 (SD=10,70)

5. Multidimensional analysis

5.1. Overals

Non-linear canonical correlation analysis (OVERALS) was first described in Gifi (25) and Van der Burg, De Leeuw and Verdegaal (26). The purpose of this procedure is to determine how similar sets of categorical variables are to one another.

Standard canonical correlation analysis is an extension of multiple regression, where the second set does not contain a single response variable but instead contains multiple response variables. The goal is to explain as much as possible of the variance in the relationships among two sets of numerical variables, in a low dimensional space. Initially, the variables in each set are linearly combined such that the linear combinations have a maximal correlation. Given these combinations, subsequent linear combinations are determined that are uncorrelated with the previous combinations and that have the largest correlation possible.

The optimal scaling approach expands the standard analysis in three crucial ways.

First, OVERALS allows to treat more than two sets of variables. Second, variables can be scaled as either nominal, ordinal, or numerical. As a result, nonlinear relationships between variables can be analysed. Finally, instead of maximizing correlations between the variable sets, the sets are compared to an unknown compromise set that is defined by the object scores.

OVERALS focuses on the relationships between sets; any particular variable contributes to the results only in as much as it provides information that is independent of the other variables in the same set.

5.2. Total group

We applied the non linear canonical correlation analysis twice on our data. First, we analysed the similarity of the biographic interview with the associations to the Rotter test in the third person and next the biographic interview with the associations to the Rotter test in the first person.

Table 3: Summary of analysis – Biographic interview combined with Rotter third person

		Dimension		Sum
		1	2	
Loss	Set 1	,166	,208	,374
	Set 2	,165	,206	,372
	Mean	,165	,207	,373
Eigenvalue		,835	,793	
Fit				1,627

Loss is partitioned across dimensions and sets. For each dimension and set, loss represents the proportion of variation in the object scores that cannot be accounted for by the weighted combination of variables in the set. The average loss is labeled Mean.

For the comparison of the bibliographic interview with the Rotter test in the third person, the average loss over sets is 0.373. Notice that more loss occurs for the second dimension than for the first dimension.

The eigenvalue for each dimension equals 1 minus the average loss for the dimension and indicates how much of the relationship is shown by each dimension. The eigenvalues add up to the total fit. Here, $0.835 / 1.627 = 51,3\%$ of the actual fit is accounted for by the first dimension and $48,7\%$ by the second dimension.

The maximum fit value equals the number of dimensions and, if obtained, indicates that the relationship is perfect. The average loss value over sets and dimensions tells us the difference between the maximum fit and the actual fit. Fit plus the average loss equals the number of dimensions. Perfect similarity rarely happens and usually capitalizes on trivial aspects in the data. Here, the goodness of fit is quite satisfying.

Table 4: Component loadings for single variables – Biographic interview combined with Rotter third person

Variable	Dimension 1	Variable	Dimension 2
Regret of past	.598	Neglect	.445
Guilt	.592	Enlarged family	.444
Exterior catastrophe	.543	Loss	.398
Nostalgia	.449	Complete family	-.335
Single break-up	.330	Suffering in childhood	-.348
Isolation	.322		
Repeated break-ups	-.315		
Current social support	-.328		
Desire for intimate relationship	-.352		
Single-parent family	-.385		
Neglect	-.386		
Suffering in adolescence	-.427		
Separation anxiety	-.480		
Maltreatment	-.499		
Suffering in childhood	-.527		
Current conflict with family	-.540		

Since there are no missing data, the component loadings are equivalent to the Pearson correlations between the quantified variables and the object scores.

The distance from the origin to each variable (i.e. the sum of the squares of the two component loadings) approximates the importance of that variable.

Proposed interpretation of dimensions:

- Dimension 1: Effects on personality functioning of repeated traumatic events from the beginning of life / effects of a recent unique trauma
- Dimension 2: Conditions related to various kind of attachment problems

Table 5: Summary of analysis – Biographic interview combined with Rotter first person

		Dimension		Sum
		1	2	
Loss	Set 1	,192	,205	,397
	Set 2	,192	,204	,396
	Mean	,192	,204	,396
Eigenvalue		,808	,796	
Fit				1,604

In this analysis, the proportion of variation in the object scores that cannot be accounted for by the weighted combination of variables in the set is 0.396, which is more or less similar to the previous case.

Here, 50,4 % of the goodness of fit is accounted for by the first dimension; hence the two dimensions are almost equivalently important.

The goodness of fit is again quite satisfying.

Table 6: Component loadings for single variables – Biographic interview combined with Rotter first person

Variable	Dimension 1	Variable	Dimension 2
Maltreatment	.392	Current social support	.426
Resignation	.375	Guilt	.408
Envy	-.311	Desire to find friends	.403
Complete family	-.323	Neglect	.371
Desire to found a family	-.383	Single parent family	.342
Distress	-.491	Isolation (in fiction)	-.341
Suffering in adulthood	-.504	Exterior catastrophe	-.345
		Suffering in adulthood	-.386
		Isolation (in reality)	-.398

Proposed interpretation of dimensions:

- Dimension 1: Emotional inhibition/ expression of feelings and emotional needs
- Dimension 2: Conscious social needs / current isolation

5.3. Clinical subgroups

The same analysis was applied to the three clinical subgroups. We stress some clinically relevant similitudes and differences between groups.

- In the subgroups of homeless people and drug addicts, the Grandiose Self (27) appeared in the first dimension of the Rotter test / first person, as opposed to the expression of distress and unsatisfied emotional needs. In the subgroup of refugees, we observed the expression of suffering linked to an underdevelopment of the Ego Ideal as opposed to a state of inhibition and isolation.
- In the subgroup of homeless people, the second dimension with the Rotter test/ third person pointed to the opposition dominance/retreat; in the subgroup of drug addicts it was interpreted in a similar manner. In the subgroup of refugees, it was focussed on the opposition current isolation / current conflicting relationships.
- The first dimension in the situation Rotter/ third person concerned always the opposition recent trauma/ repeated ancient traumata.

6. Exploring the meaning of discrepancies between conscious and unconscious statements

*Table 7: Differences between statements in 3rd and 1st person; Wilcoxon Sign Rank Test**

Variable	Z	Level of signif.	Direction of difference
Ego representation			
Separation anxiety	-1,622	0,105	
Distress	-2,920	0,004	I > he,she
Guilt	-5,506	0,000	I < he,she
Resignation	-2,117	0,034	I < he,she
Hatred	-2,982	0,030	I < he,she
Envy	-1,604	0,109	
Pessimism	-2,101	0,036	I < he,she
Regret of pass	-3,302	0,001	I < he,she
Nostalgia	-3,317	0,001	I > he,she

Representation of Ego Ideal			
Hypertrophy	-0,688	0,491	
Underdevelopment	-4,642	0,000	I < he,she
Goals			
Professional goals	-0,447	0,655	
Friendship	-2,771	0,006	I > he,she
Family	-1,000	0,317	
Love	-0,272	0,782	
Interpersonal relationships			
Conflicts with family	-4,422	0,000	I < he,she
Conflicts with friends	-1,093	0,274	
Conflicts at work	-0,243	0,808	
Isolation	-2,840	0,005	I < he,she

* Due to the nature of our data, we accept a risk of $\alpha = .05$

Discrepancies between statements in the first person (conscious level) and in the third person (unconscious level) can be related to the interference and interaction of defense mechanisms and coping strategies. According to clinical literature, borderline functioning is characterized by a strong preminent of archaic defense mechanism like splitting, denial, primitive idealization (28, 29, 1).

Those defense mechanisms may interfere with the direct expression of emotional needs and negative feelings in the first person. For people presenting a higher level of personality functioning, the tendency to show themselves in a positive light may also interfere with the responses, especially in the first person.

Our results may be interpreted in several ways. We see that the expression of separation anxiety, guilt, resignation, hatred, pessimism, regret of past, low self esteem and the description of isolation and conflicts with family is more pronounced with statements in the third person, whereas the expression of distress, nostalgia and desire for friendship is more important on the conscious level. We may conjecture that only very strong emotions are expressed directly in the first person, breaking through the conscious control. On the other side, defense mechanisms and coping strategies may less impede the expression of socially unwanted negative feelings, like hatred and envy, in the third person than in the first person (see figure 1).

A further exploration of these discrepancies with various populations is an interesting track for further research.

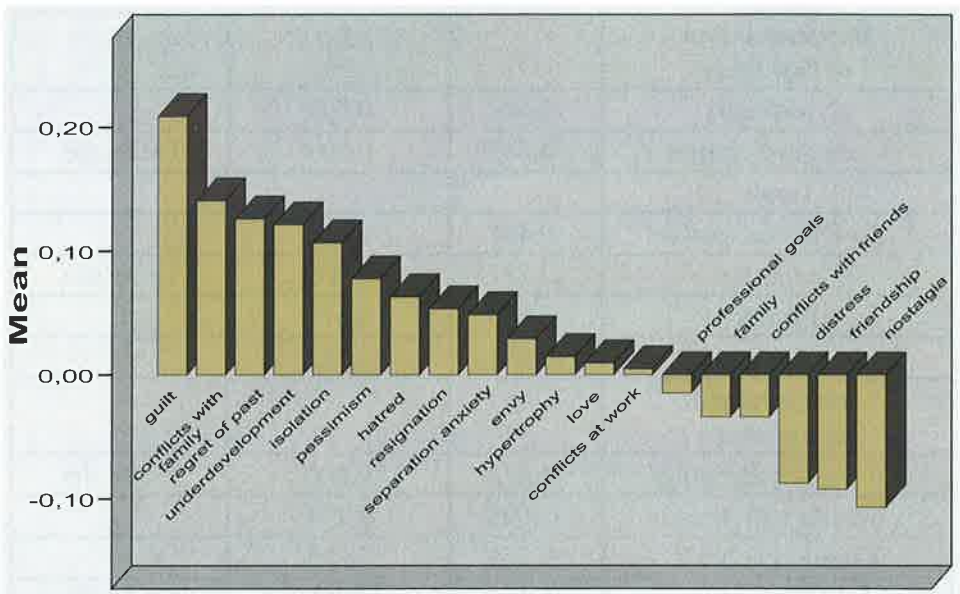


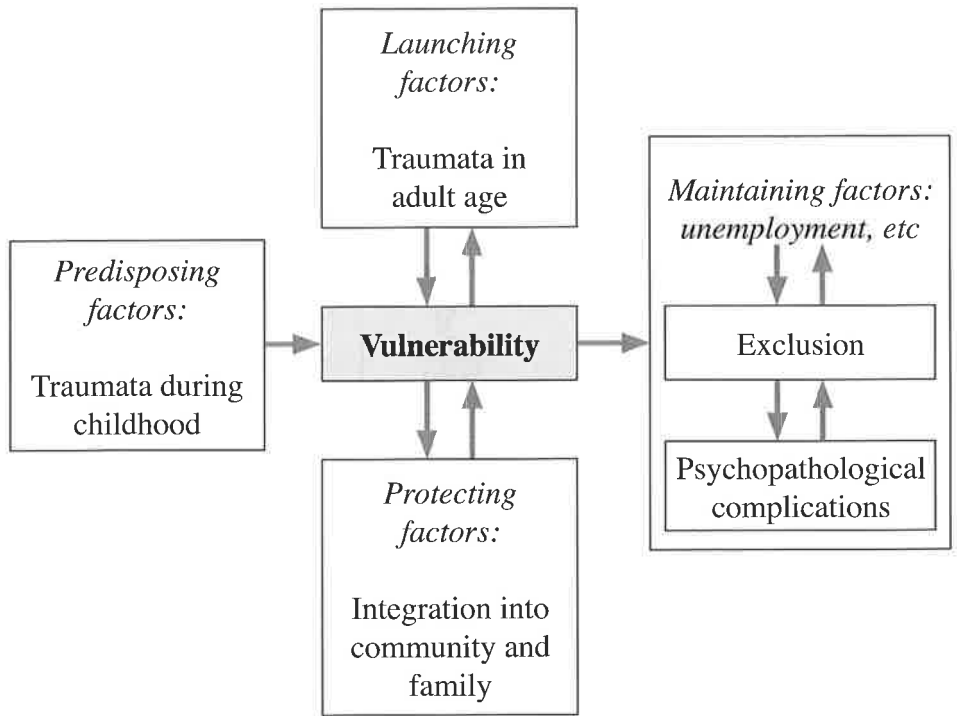
Figure 1: Differences between expression of emotions and needs on the conscious and unconscious level (Rotter test).

7. Synthesis

Our hypothetical dimensions are psychologically meaningful in the light of clinical literature.

The traumatogenic hypothesis of borderline functioning (30) and psychosis is supported by our research results, especially by the great amount of disastrous biographical events in the life story of subjects belonging to the sample of homeless and unemployed people and also to the sample of prisoners. The investigation of the matrixes of rank correlations (not reported here) shows that there are significant links between these events and fundamental dimensions relevant of borderline functioning, such as the pathological status of the Ego Ideal, the absence of realistic goals, the expression of archaic aggressivity or the presence of essential depression and anaclitic objectal needs (23, 24). On the other side, we could distinguish two configurations among the refugees: on the one side those who had a biography resembling that of the former mentioned clinical samples, on the other side those who suffered from recent exterior catastrophes breaking into a continuous life course. Thus, we can confirm the theoretical modelization we made earlier (31)

Figure 2: Theoretical modelization of the links between biographic traumatic events and exclusion and marginalization



(31, p. 323)

Borderline functioning and adaptive pathology can be considered as modulating factors between ancient traumata and exclusion and marginalization in later life. Our modelization will be tested with a new sample.

8. Conclusion

With the help of the above mentioned optimal scaling technique and also with the help of other multidimensional procedures (32), we have extruded several personality profiles among people suffering from exclusion and marginalization. Thus the arts therapeutic sessions must be adapted to the different kinds of personality profiles, those suffering from ancient repeated traumata needing a long term restructuring psychotherapy. In arts psychotherapy, we try to heal by fiction wounds struck by reality.

Figure 2: Relaunching the process of subjectivation



As we could show in preliminaries studies with borderline adolescents (33-37), arts psychotherapy is not focused on the psychopathological symptoms but stimulates the healthy part of personality, not in a quasi miraculous or magical way, but by improving the connection between the conscious and the unconscious part of the self. It opens the mind to a flow of significant images and favours at the same time their cognitive and symbolic elaboration.

It is only by an integration of the personal violence, the deeply repressed feelings of hatred, jealousy and guilt, and by understanding it as a part of normal human functioning, linking one's individual destiny with the existential situation of mankind, that the self broken by traumatic experiences may be gradually restored (38).

References

- (1) DULZ B., SCHNEIDER A. (1996). *Borderline Störungen. Theorie und Therapie*. (2^e éd). Stuttgart: Schattauer.
- (2) KOVÉSS-MASFETY V. (2001) *Précarité et santé mentale*. Rueil-Malmaison: Doin Editeurs.
- (3) AMETEPE L. (2003). Liens entre usage de cannabis et schizophrénie. *La Revue Française de Psychiatrie et de Psychologie Médicale*. VII, 70; 25–35.
- (4) REYNAUD M. (2003). Cannabis: quelques mises à jour. *Synapse*, 199; 16–18.
- (5) CATON, C. L. M., HASIN, D., SHROOUT, P. E., OPLER, L. A., HIRSHFIELD, S., DOMINGUEZ, M. A. B., & FELIX, A. (2000). Risk factors for homelessness among indigent urban adults with no history of psychotic illness: a case-control study. *American Journal of Public Health*, 90; 258–263.

- (28) KERNBERG O. (1978). The Diagnosis of Borderline Conditions in Adolescence. In. Feinstein S.,
- (29) BERGERET J. 1996. La personnalité normale et pathologique, (3^e éd.). Dunod, Paris.
- (30) GOODWIN J.M., ATTIAS R. (ed.) (1999). Splintered Reflections. Images of the Body in Trauma. New York: Basic Books.
- (31) SCHILTZ L. HOUBRE B. (2006). Analyse multidimensionnelle d'homogénéité sur échantillons restreints: Comparaison entre différents sous-groupes d'individus en situation d'exclusion. *Bulletin de la Société des Sciences Médicales du Grand Duché de Luxembourg*, 2 (Numéro spécial); 311-325.
- (32) SCHILTZ L., HOUBRE B., MARTINY C., (2007) Précarité sociale, marginalisation et pathologie limite: Etude comparative de plusieurs groupes de sujets en rupture de projet de vie. *L'évolution psychiatrique*; 72; 453–468. <http://dx.doi.org/10.1016/j.evopsy.2007.05.001>
- (33) SCHILTZ L. (2002) Archétypes signalant la reprise du processus de subjectivation. *La Revue de Musicothérapie*, XXII, 1, .8–11.
- (34) SCHILTZ L. (2003) L'organisation limite de la personnalité à l'adolescence. Considérations diagnostiques et thérapeutiques. Tome 1. Rapport de recherche R et D. Luxembourg: CRP-Santé.
- (35) SCHILTZ L. (2004a). Lorsque le temps s'est arrêté... La pratique de la musicothérapie auprès des personnes traumatisées. *La Revue de Musicothérapie*, XXIV, 1; 44–49.
- (36) SCHILTZ L. (2004b). Musicothérapie et processus de symbolisation chez les adolescents à fonctionnement limite. *La Revue française de Psychiatrie et de Psychologie médicale*, VII, 73; 17–20.
- (37) SCHILTZ L. (2005). Dysfonctionnements cognitifs liés aux pathologies limites à l'adolescence. Etude comparée de quelques tests projectifs. *Neuropsychiatrie de l'Enfance et de l'Adolescence*, 53, 3; 107–113.
- (38) LINDEN M., ROTTER M., BAUMANN K., LIEBEREI B. (2007). Posttraumatic Embitterment Disorder. Göttingen: Hogrefe & Huber Pub.

Author note:

Lony Schiltz, Doctor in clinical psychology, HDR, CRP-Santé

Jang Schiltz, Doctor in stochastical analysis, ADR, Assistant professor in mathematics, University of Luxembourg

Jang.schiltz@uni.lu

lony.schiltz@education.lu

- (6) SPENCER E. (Ed). (2001). PTSD in Children and Adolescents. Washington DC: American Psychiatric Publishing Inc.
- (7) CROCO L. (2005). Quelques jalons dans l'histoire des traumatismes psychiques. *Synapse*; 219, 6–16.
- (8) MURPHY H.B.M. (1980). Dépression nerveuse, croyance à la sorcellerie et développement du Surmoi dans les sociétés traditionnelles. *Psychopathologie africaine*, 16; 171–194.
- (9) JANIN A.C. (2003). La persécution dans les dépressions à l'île de la Réunion: Approche ethnopsychiatrique et conséquences nosographiques. *Nervure*, 2 (16); 16.
- (10) MBASSA MENICK D., MENGUENE MVIENA J.L. (2006). Modalités expressives des dépressions en psychopathologie camerounaise. *Synapse*, 222; 39–46.
- (11) ODELL S. M. COMMANDER M. J. (2000). Risk factors for homelessness among people with psychotic disorders. *Social Psychiatry and Psychiatric Epidemiology*, 35; 396–401.
- (12) FICHTER M. M., QUADFIELD N. (2001). Prevalence of mental illness in homeless men in Munich, Germany: results from a representative sample. *Acta Psychiatrica Scandinavica*, 103; 94–104.
- (13) ALEZRAH C, CABROL M, BENAYED J. (2002). Psychotiques et sans-abri: quelles réponses? *Revue Française de Psychiatrie et de Psychologie Médicale*. VI, 54; 73–78.
- (14) WHALEY A. L. (2002). Demographic and clinical correlates of homelessness among African-Americans with severe mental illness. *Community Mental Health Journal*, 38 (4); 327–338.
- (15) ZUBIN J., SPRING B. (1977). Vulnerability – a new View of Schizophrenia. *Journal of Abnormal Psychology*. 86 (2); 103–123.
- (16) GUNDERSON J.G., GABBARD G.O. (Eds) (2000). *Psychotherapy for Personality Disorders*. Washington DC: American Psychiatric Press.
- (17) CIOMPI L. (1984). Model concepts of the interaction of biological and psychosocial factors in schizophrenia. *Fortschritte in der Neurologie und Psychiatrie*, 52 (6); 200–206.
- (18) KERNBERG P.F., WEINER A.S., BARDENSTEIN K.K. (2000). *Personality Disorders in Children and Adolescents*. New York: Basic Books.
- (19) ZIGMOND A.S., SNAITH R.P. (1983). The Hospital Anxiety And Depression Scale. *Acta Psychiatrica Scandinavica*, 67; 361–370.
- (20) CAMPBELL A., CONVERSE P. E., RODGERS, W. L. (1976). *The quality of american life: perceptions, evaluation and satisfaction*. New York: Russell Sage.
- (21) ROTTER J.B., WILLERMAN B. 1949. The incomplete test as a method of studying personality. *Journal of Consulting Psychology*; 44–48.
- (22) SCHILTZ L. (2006). Grilles d'analyse de contenu basées sur l'approche phénoménologico-structurale. *Bulletin de la Société des Sciences Médicales du Grand Duché de Luxembourg*, 2 (Numéro spécial); 265–280.
- (23) SCHILTZ L., HOUBRE B. (2004). Idéal du Moi et Surmoi chez les personnes en situation d'exclusion. *Revue française de psychiatrie et de psychologie médicale*, 8(81); 17–24.
- (24) SCHILTZ L., HOUBRE B. (2005) Pathologie adaptative et troubles identitaires. Résultats d'une étude exploratoire. *Bulletin de la Société des Sciences Médicales du Grand Duché de Luxembourg*, 2 (Numéro spécial); 239–256.
- (25) GIFI A. (1981). *Nonlinear multivariate analysis*. Leiden: Department of Data Theory.
- (26) VAN DER BURG E., DE LEEUW J. & VERDEGAAL R. (1984). *Non-linear canonical correlation analysis*. Leiden: Internal Report RR-84-12, Department of Data Theory.
- (27) KOHUT H. (1991). *Analyse et guérison* (trad.fr.), Paris: PUF.