Two convergent validity tests of the David Liberman algorithm (DLA)
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I. Goal: to test the convergent validity of the David Liberman algorithm (DLA) in two different investigations.

II. Procedures: 1) "old fashion" way: comparison between outcomes (on drives and defenses) of different researches, appeared in 1994, on the same sample (Ms Smithfield), 2) systematic way: comparison of the analysis (on defenses) of the DMRS and the DLA applied to the same sample (Catullo).

III. The DLA's clusters

Table I: Drives and main defenses

Drives	Defenses	State
IL	Foreclosure of the affect	Successful
O1 O2 A1	Disavowal	
	Foreclosure of reality and the ideal	
A2 UPH GPH	Repression with or without characterologic traits	Failed
LI O1 O2 A1 A2 UPH GPH	In accordance with the goal	Successful/ Failed
	Creativity	
	Sublimation	

Tabla II: Drives and seccondary defenses

LI	O1	O2	A1	A2	FU	FG
-drive regression	-drive regression	-drive regression	-drive regression	-drive regression	-drive regression	-drive regression
-ego regression	-ego regression	-ego regression	-ego regression	-anulation	-displacement	-superego regression
-generalized avoidance	-intrachannel splitting	-ego splitting	-ego splitting	-isolation	-projection	-identification
-organic introjection	-projection	-introjection	-introjection	-reactive formation	-speciffic avoidance	-condensation
-incorporatio	-introjection	-identificatio n	-identificatio n	-control		
	-trasforma-			-suppression of the affect		

n -expulsion -organic projection -adhesive identificatio n -spplitting of the primitive reality ego	tion into the contrary -turning against oneself -mimetism	-projection -transforma-tion into the contrary -turning against oneself	-projection -transforma-tion into the contrary -turning against oneself			

<u>IV. Comparing the outcomes (on drives and defenses) of the DLA application to Ms Smitfhield´s interview with the results of other 7 investigations</u>

1. <u>Sample</u> (*Psychotherapy Research, 1994,4*). The patient is a 23-year-old divorced woman who is a recent college graduate. She presently sells flowers on a streetcorner in Boston **.** She described a large number of recent traumas, but related them in a flat, emotionless manner and described her experiences and her reasons for seeking treatment with extreme vagueness. The traumas she described included a serious car accident and five rapes. The car accident left her with a memory loss**,** but she is confused as to whether the memory loss was due to physical or psychological factors; that is one reason for her seeking treatment After college she moved to Africa where she married an African man. However, he mysteriously disappeared and never returned**,** constituting another trauma; she subsequently divorced him**.** The patient was an only child of parents who were described as successful and well-educated and pushed her to achieve academically**.** Her parents were also described as having been emotionally neglectful-lacking in empathy, attentiveness, and emotional support. She described her mother as manipulative and untrusting of others and described herself as similarly lacking in trust and expecting Disappointment. On the other hand, she described her father more positively**.** Since he had been abandoned by his first wife**,** she sees him as similar to herself**.** She also recalls having been ostracized, scapegoated, and victimized by her peers in school, causing her to feel like an isolated outsider**.** It was hypothesized that, as a result of her experiences at home and at school, she has a very poorly integrated sense of self and a diffuse identity. The identity difusión would explain her lack of clarity in describing her feelings, needs, beliefs, and wishes**.**It would also explain why she seems so readily to accept what other people tell her about herself and her traumas**.** In the rapes she seems to have been extremely passive, assuming the masochistic position of a victim and feeling like the victim of other people's exploitive, abusive actions**.** This masochistic style may help her maintain a feeling of attachment and love**.** However, she seems confused as to whether she is simply a victim or whether she has contributed in some way to the rapes. Her defenses include intellectualization and isolation of affect, and her flatness of affect resembles the numbing seen in a post-traumatic stress disorder.

2. <u>Procedures</u>: No especific analysis of the sample were provided by the 7 papers appeared in 1994. A final comparison among the papers (written by Luborsky, Propp and Barber) stressed mostly certain common and special factors of the different meassures. The comparison between the outcomes of these papers and the DLA results have the same qualitative trait. The sequence is: 1) to compare the DLA outcomes with the research with the analysis of the outcomes of the other 7 researches, and 2) to discuss on the prevalence of certain wishes and defenses.

<u>3. Contrast between the DLA results and the analytic outcomes of the 7 studies</u>

<u>3. 1. DLA outcomes</u>

The patient´s non pathogenic organization seemed to be based in the predominance of the defense in accordance to the goal, which led her to consult, to obtain her master, to recover from her crisis after the return from Africa and after the car accident. Regarding the pathogenic sector, three sectors are relevant: 1) repression plus hysterical and phobic characterologic traits, which ones led to a phenomenic presentation, 2) disavowal that generated "passionate" characterologic traits, centered in sacrifice, self-reproach and report of the abuse suffered, and 3) disavowal that leads her to be unaware of concrete risk situations in favour of abstract thoughts, combined with foreclosure of the affect, which led her to suffer an organic alteration as a way of solving the conflict. This third group of defenses contains a mixture between eschizoid characterologic traits and different types of somatic perturbations (deseases, pregnancy-abortion, drug consumption, accident, knock). Even though the patient preferred to define herself according to the second fragment (the "passionate" one), the nuclear and effective was the permanente return of the failures in the defensive system from the tirad fragment (Table I).

<u>Table III: The patient´s psychic structure according to DLA</u>

Pathogenic Psychic Currents   Non Pathogenic Psychic Currents

Character Neuroses	GPH	Repression + hystrionic and seductive traits
	UPH	Repression + avoiding and ambitious traits
Narcissistic organization with which she created the links	A1 O2	Disavowal Disavowal
Nuclear Organization	O1 LI	Disavowal Foreclosure of the affect

A2	According to the goal

3. 2. Seven 1994 studies' outcomes

The 7 papers appeared in 1994 differed on the concepts, the method, the focus on part or the totality of the sample and on the richness of the conclusions. After "translating" the conclusions of each paper in terms of the DLA, it was possible to reach a comparative overview (Table II and III).

Table IV: Comparison between the analysis of drives in the 7 studies

Authors	LUB	M.	CUR	SCHA	ROS	PERR	DAHL

Drives		HOR					
GPH						X	
UPH		X	X	X	X	X	
A2	X		X		X	X	
A1	X	X	X	X	X	X	X
O2	X	X	X	X	X	X	X
O1		X	X	X	X	X	X
IL		X			X	X	

Table V: Comparison between the analysis of defenses in the 7 studies

Authors / Defenses	LUB	M. HOR	CUR	SCHA	ROS	PERR	DAHL
In accordance with the goal						X	
Repression + characterologic traits		X	X	X	X	X	
Disavowal		X		X	X	X	
Foreclosure of the affect					X	X	

4.. Discussion: on the intervening components and their dominances

Perry's study turns out to be the most exhaustive regarding the richness in capturing desires and defenses, followed by Rosenberg et al's study. There exist strong coincidences between this analysis and the inventory of desires and defenses detected with the DLA. The coincidences are major on the analysis of the patient's psychic organization, but they decrease on the study of the enacted scenes during the interview and on the detection of the most relevant components. Two authors (M. Horowitz and Rosenberg et al) stress the predominance of the most primitive drives, specially IL, while Perry's analysis emphasizes oedipical drives. The combination between Horowitz and Rosenberg et al's studies seems to guarantee the desires investigation with DLA, and even the decision regarding what the dominant is. Perry's study seems to guarantee the description of the conflict between a pathogenic and a functional sector in the patient, and Rosenberg et al's study of the defense seems to guarantee the analysis of the dominant mechanisms according to DLA.

It is possible to detect a conflict between the two main investigations referred to the combinations of drives and defenses. While Rosenberg et al stresses the predominance of IL and foreclosure of the affect combined with O1 and disavowal, Perry gives relevance to IL and foreclosure of the affect combined with O2 and disavowal and GPH and repression, with a predominance of these two last components. Besides, some other researchers partially share the opinions of the previously mentioned authors.

This conflict has strong affinities with a similar conflict that became evident in the DLA analysis, among two alternative ways of stressing the dominant component: either the "passionate" nucleus (O2 and A1 and disavowal) or other sector, more regressive (O1 and disavowal and IL and foreclosure of the affect). In this conflict, the outcomes of the DLA research are in tune with Rosenberg et al´s position, but not with Perry´s. This tune with Rosenberg et al´s position is complemented with a tune with Perry in relation to the components (desires and defenses) detected in the analysis of the interview, without paying attention to what the prevalent is.

Besides, the DLA study put in evidence a difference between the analysis of narrated and enacted episodes, regarding the state of the pathogenic defense: this one had failed

in the extra-transferential relationships, but the patient tried to reestablish its successful state during the interview.

V. Comparing the outcomes (on defenses) of the DMRS and the DLA applications to the sample of Catullo's diagnostic interview

1. Sample: The material corresponds to a diagnostic interview (provided by J. C. Perry) with Cátulo. This is a patient of about 25 years old who narrated that he had had two previous treatments, the first because of his severe drugs consumption and the second after a serious suicidal attempt followed by a violence outbreak in which he ended up destroying an apartment. In his childhood he was ignored by his father, who was always on his back and sleeping. After the divorce between his parents, the patient developed an intense hate towards his father, he even became fisically violent if the family mentioned his name. He also used to reject the men her mother chose as couples. He began drinking alcohol in his early adolescence, after that he took marihuana and finally, drugs as cocaine and heroin. During that time his mother started a stable relationship with a man that Catullo accepted. In the period in which his mother got engaged, Catullo intensified the drug consumption, and consequently he did not remember anything about that time. From that moment the patient alternated between living outsider his mother home and going back to. Finally, he received psychiatric attention in order to come off drugs. In that moment his mother found out he was taking drugs and that his addiction was severe. When this treatment was finished, Catullo moved to another town to work and to try to open his own way. He did not have family or friends there. Was in this ton where he had the suicidal attempt, a bit after a girl said, without foundation, that he had got her pregnant. He was not able to find arguments to rectify the lie. In the middle of the suicidal attempt, a person he knew, Claudia, telephonically declared her love for him and he told her how he felt. Then, when his forces declined, he had a violence outbreak and destroyed his apartment. Claudia told Catullo´s boss and that let them rescue him alive when he was without consciousness. When he got out of this hospitalization after his suicidal attempt, he started a relationship with Claudia, with whom he lived for about a year and a half, until she interrupted the relationship. According to the patient, she abandoned him because he was "unbearable", he was all the time sleeping. The patient narrated that in the last Christmas they arranged to meet and he felt asleep. Claudia knocked insistently and without success the door of his bedroom. After the separation from Claudia, the patient consulted again, received a first psychiatric attention and he tried to get Claudia back. As he supposed she abandoned him because he was "unbearable", he tried to be cheerful and communicative with her, but he did not get immediate success. He began to think that Claudia had another man. So he had another violence outbreak in which he destroyed the bathroom of his department. This episode occurred the week before the present interview. Besides, the day before the interview he went to a first session of psychotherapy. According to his words, the therapist was disoriented and when he got back to his apartment he felt very bad and had suicidal thoughts. He feared going crazy like his grand-grandfather. He also referred with anxiety that his grand-grandfather was a psychotic with violent attacks that remained hospitalized during a long part of his life He was also thinking about what to say to his therapists in order to be useful and he did not know what to say.

During the interview the patient tells the already summarized story. His discourse alternates some histrionic and exaggerating phrases, including dramatizations, some elusive phrases, some of them he sometimes leaves unfinished, but also he exhibites phrases in which he tries to describe his situation and makes an unsuccessful effort to understand. Some other phrases correspond to vindictive violence outbreaks against the father, as much as against the supposed Claudia´s new couple, other phrases have wails, complaints, suffering expressions, a few characterizes the others or his own falseness and finally another important group is constituted by cathartic vent. Also some paraverbal components were relevant: sometimes the patient cried with anxiety and sometimes he laughed with irony. When the hour is about to finish, the patient develops a combination between desperation phrases linked to the fact that he can not find a way out, as either him nor the professionals know what is wrong with him, wails, complaints and mostly cathartic outbreaks. However, when the therapist announces the end of the hour, Catullo asks for one moment more, gets better and finishes the hour with an irony towards himself, mainly towards the lack of enchantment of his daily life

.2. Procedures: While the DLA studies, in a differentiated way, the scenes narrated by the patient (and that can include episodes of his childhood and adolescence as well) and the scenes displayed in front of the therapist, DMRS does not differentiate between these two levels of analysis. Besides, DMRS and DLA do not match in the general criteria for fragmenting the sample. This fact introduces new difficulties for the systematic comparisons of the corresponding outcomes. DMRS and DLA show quantitative and qualitative outcomes. The comparison concerns both quantitative outcomes. Main steps of the comparison: 1) To compare both global statistical outcomes, 2) To compare both statistical outcomes in the narrations and the enacted levels of analysis proposed by the DLA, 3) To compare the analysis of the defenses in the 74 fragments proposed by the DMRS.

3. The DMRS clusters of defenses

Tabke VI The DMRS`s cluster

Defense	Details	Defense	Details
Mature	Affiliation (ego function)	Narcissistic	Omnipotence
	Altruism		Idealization
	Anticipation (affective rehearsal)		Devaluation
	Humor	Disavowal	Denial
	Self-assertion (e.f.)		Projection
	Self-observation (e.f.)		Rationalization
	Sublimation		Fantasy
	Suppression		
Obsessional	Isolation	Borderline	Splitting (object images)
	Undoing		Splitting (self images)
	Intellectualization		Projective identification
Other Neurotic	Repression	Action	Acting out
	Dissociation		Passive aggression
	Reaction formation		Hypochondriasis
	Displacement		

The main defenses of DLAs´s cluster are combined with a large group of complementary mechanisms, and the state of the defense (successful, failed, mixed) is also studied. Some of the DLA groups of defenses gather several of the DMRS´ clusters of mechanisms and vice versa. DLA distinguishes between three types of central functional defenses, whereas DMRS only includes one. On the other hand, DMRS differentiates two groups of defenses for transference neuroses (obssessional and other neurotic) whereas DLA describes only one (repression), and differentiates among the clinical organizations (hysterical, obssessional, etc.), thanks to the complementary mechanisms. DMRS considers three groups of defenses corresponding to narcissistic non psychotic pathologies whereas DLA only proposes one (disavowal). DMRS proposes the "action" cathegory that may be similar to the cathegory of defenses (foreclosure of the affect) that DLA atributes to adictions, autism, etc. Regarding the group of defenses corresponfing to repression+characterologic traits and corresponding to foreclosure of reality and the ideal, it does not seem to have an equivalent in DMRS. There is not either an equivalent for the state of the defenses in DMRS.

4. A comparative general statistic overviex

The DMRS and the DLA fragment the clinical interview using different criteria, so the number and the features of the unities of analysis for both methods are not coincident.

4. 1. Outcomes

Tabke VII: DMRS outcomes (74 fragments)

Defenses	%
Mature	8
Obsessional	6.67
Other Neurotic	33.33
Narcissistic	6.67
Disavowal	10.67
Borderline	2.67
Action	32
TOTAL	100

DLA outcomes
Table VIII: Defenses (narrated and enacted scenes: 111 fragments)

Defense	%
In accordance whit the goal	34,23
Disavowal	21,62
Repression+characterological traits	18,92
Foreclosure of the affect	18,02
Repression	6,31
Foreclosure of reality and the ideal	0,90
TOTAL	100

4. 2. Perry (2003) proposed the differentiation between two main groups of defenses: the more pathogenic ones (from the narcissistic to action) and the more beningn (from the mature mechanisms to the other neurotic). The first group would predict severe resistances during treatment, and the second group leads to anticipate a more collaborative attitude. This differentiation between the two main groups of defenses is a useful first guide for the comparison between the statistical DMRS and DLA outcomes, and it also allows to appreciate some general convergence.
Table IX: A comparison between the DMRS and the DLA's outcomes

	Type of DMRS		%	%	DLA defenses

	defense	defenses	DMRS	DLA	
Common defenses to both methods	More benign defenses	Mature	8	43,21	In accordance with goal
		Obsessional and other neurotic	40	6,65	Repression
		TOTAL	48	49.86	TOTAL
	More pathogenic defenses	Narcissistic, Disavowal and Borderline	20	16,39 12,24	Repression+characterologic traits Disavowal
		Action	32	20,03	Foreclosure of the affect
		TOTAL	52	48,66	TOTAL
				1,48	Foreclosure of reality and the ideal
				50,14	TOTAL

5. A comparative especific overview

5. 1. The DLA allows to research in a differentiate way the narrated episodes (which reflects the patient's extra-transference relationships) and the enacted episodes (which evidences the patient's intra-session relationships).

Table X: Defenses in the narrations with the DLA (87 fragments)

	%
In accordance whit the goal	30.84
Foreclosure of the affect	21,48
Repression+characterologic traits	15.44
Disavowal	10.49
Repression	17,59
Foreclosure of reality and the ideal	4,07
TOTAL	100

Table XI: Defenses in the enacted scenes with the DLA (24 fragments)

	%

In accordance whit the goal	50.25
Foreclosure of the affect	19,20
Repression+characterologic traits	16.89
Disavowal	13.25
Repression	0,41
TOTAL	100

5. 3. The comparison between the analysis of narrations and enacted scenes shows that the state of the patient during the session was less serious than in some previous periods. The DMRS was not designed for the research of these two independent levels of analysis, but it is possible to infer that some of the analysed fragments (like # 5, Acting out) are narrations, and some others (like # 12, Help-rejecting complaining) are enacted scenes. (Incidentally, fragments 5 and 12 were scored as the most severe level of defenses.) The analysis with the DMRS can be distributed in two sectors: narrated and enacted episodes:

Table XII: Defenses in the narrations with the DMRS (39 fragments)

Defenses	N° of scenes	%
Other neurotic	13	33,33
Action	13	33,33
Disavowal	6	15,40
Obsessional	3	7,69
Mature	2	5,13
Narcissistic	1	2,56
Borderline	1	2,56
TOTAL	39	100

Table XIII: Defenses in the enacted scenes with the DMRS (34 fragments)

Defenses	N° of scenes	%
Other neurotic	12	34,28
Action	11	31,44
Mature	4	11,43
Narcissistic	3	8,57
Obsessional	2	5,71
Disavowal	2	5,71
Borderline	1	2,86
TOTAL	35	100

Table XIV: Comparison of defenses in DMRS and DLA: narrations

	Type of defense	DMRS defenses	% DMRS	% DLA	DLA defenses
Common defenses to both methods	More benign defenses	Mature	5,13	30.84	In accordance with goal
		Obsessional and other neurotic	41,02	17,59	Repression
		TOTAL	46,15	48,43	TOTAL
	More pathogenic defenses	Narcissistic, Disavowal and Borderline	20,52	25,93	Repression+characterologic traits Disavowal
		Action	33,33	21,48	Foreclosure of the affect
		TOTAL	53,85	47,41	TOTAL
				4,07	Foreclosure of reality and the ideal
				51,48	TOTAL

Table XV: Comparison of defenses in DMRS and DLA: enacted scenes

	Type of defense	DMRS defenses	% DMRS	% DLA	DLA defenses
Common defenses to both methods	More benign defenses	Mature	11,43	50.25	In accordance with goal
		Obsessional and other neurotic	39,99	0,41	Repression
		TOTAL	51,42	50,66	TOTAL
	More pathogenic defenses	Narcissistic, Disavowal and Borderline	17,14	30,14	Repression+characterologic traits Disavowal
		Action	31,44	19,20	Foreclosure of the affect
		TOTAL	48,58	49,34	TOTAL

5. 4. Both analysis coincide on the fact that the prevalence of the more bening defenses over the most severe ones is slightly more relevant during the interview than in the extra-trannsference episodes. Besides, the DLA comparison between narrations and enacted scenes shows a difference on the state of the defense: it is failed for narrations and succeessful for the displayed episodes. This fact suggests that the patient increases his resistance during the interview and that, if the therapist cannot change this clinical situation, the treatment is in risk of faillure.

6. A comparative study of the 74 fragments

To compare the outcomes of both methods, the 74 fragments proposed and analyzed by the DMRS also were studied with the DLA.

Table XVI: Table of contingency Judge 2-DMRS * Judge 1-DLA

(Absolut observed frequencies)

Recount

		Judge 1-DLA				
		In accordance with the goal	Repression	Disavowal	Foreclosure of Affect	Total
Judge 2-DMRS	In accordance with the goal	**6**	0	0	0	6
	Repression	4	**19**	4	3	30
	Disavowal	0	1	**12**	1	14
	Foreclosure of Affect	1	0	0	**23**	24
Total scenes =		11	20	16	27	74

Table XVII: Table of contingency Judge 2-DMRS * Juez 1-DLA

(By chance awaited frequencies)

Awaited frequency

		Judge 1-DLA				
		In accordance with the goal	Repression	Disavowal	Foreclosure of Affect	Total
Judge 2-DMRS	In accordance with the goal	**,9**	1,6	1,3	2,2	6,0
	Repression	4,5	**8,1**	6,5	10,9	30,0
	Disavowal	2,1	3,8	**3,0**	5,1	14,0
	Foreclosure of Affect	3,6	6,5	5,2	**8,8**	24,0
Total		11,0	20,0	16,0	27,0	74,0

value *k = 0,737*

Besides, the high grade of agreement between the judges is confirmed by the result of the *Statistical Significance* of 0,000, which means that the probability of such a high value of a Kappa of 0,737 of agreement appearing between the jidges by chance is 0, i. e. that the probability of a highly significative result dueing to random is improbable (P = 0,000).

VI. Discussion

The convergent validity test DMRS/DLA had offer some difficulties based on the differences on the clusters of defenses, on the levels of analysis and on the type and

number of fragments to be studied. Three different strategies of comparison were used: 1) the global outcomes (intending to solve the problem of the differences on clusters), 2) the specific outcomes (narrations and enacted scenes) (intending to solve the problem of the differences on levels of analysis). 3) 74 fragments (intending to solve the differences on the type and number of fragment to be studied). In the three strategies, some significative coincidences were observed. In the first and the second strategies, the coincidences concern to the opposition more benign-moreve severe defenses. In the third strategy, the coincidences concerns to kappa .737 (P= 0,000).

VII. <u>Conclussions</u>

1. The first validity test (III) shows the coincidences between the DLA application and other 7 researches (all them having a qualitative form) on drives and defenses.

2. The second validity test (IV) demonstrates that the DLA and the DMRS's applications (both having a quantitative form) match on the research of drives. .