



Development of a New Ego States Inventory – Report on a Brazilian Sample with a Portuguese Version

© 2022 Renata Cristina Brandão Rossini, Ederaldo José Lopes and Joaquim Carlos Rossini

This work is part of the master's thesis of the first author supervised by the second and third authors. Graduate Program in Psychology, Institute of Psychology, Federal University of Uberlândia, Uberlândia, MG, Brazil.

The authors thank CAPES and FAPEMIG for financial assistance and scholarship granted.

Abstract

This study was conducted in Brazil and presents a new inventory built for the evaluation of ego states, an important concept within transactional analysis theory. The study involved the participation of 295 volunteers of both sexes, aged between 18 and 70 years. Exploratory factor analyses indicated an instrument in Portuguese consisting of 37 items adequately characterised in six factors: Critical Parent (CP), Nurturing Parent (NP), Adult (A), Free Child (FC), Adapted Child – Submissive (ACS), and Adapted Child - Rebellious (ACR). The result is a useful measure for investigation and mapping of ego states for application with individuals, and as the basis for future research in a range of languages.

Keywords

ego states; factor analysis; inventory; transactional analysis; egogram; personality, exploratory factor analysis (EFA)

Introduction

Transactional analysis (TA) theory predicts that each individual has a set of behavioural standards which is conveyed in everyday relationships via transactions, and expressed by different modes or states, known as ego states. The ego states are represented by a tripartite psychological structure composed of three main concepts called the Parent, Adult and Child. This primary structure has functional dimensions subdivided into Critical Parent (CP), Nurturing Parent

(NP), Adult (A), Free Child (FC), and Adapted Child (AC). This study set out to develop an instrument, in Portuguese, for measuring these functional, or behavioural, manifestations.

Each of the ego states has a magnitude which can be understood as a psychic energy, or *cathexis* (Berne, 1985; Dusay, 1972). The magnitude of the cathexis distributed among the ego states is regarded as constant (hypothesis of constancy) and represented in the typical behaviours of each state. This implies that, when an ego state is invested with more cathexis, necessarily there is a reduction and redistribution of cathexis expressed by the other ego states, although the overall magnitude of the total constant cathexis is maintained.

The constancy hypothesis was represented visually by Dusay (1972, 1977) in a graph known as an egogram. The egogram aims to schematically represent the magnitude of self-perceived behaviour in different ego states, which is a technique widely used by TA practitioners, as well as in other areas of behavioural study, and serves to provide an individual self-representation in regard to the intensity of experienced behaviour in each ego state. The importance of the egogram in practice lies in the possibility of guiding the client's diagnostic and self-awareness process about their relational patterns, as well as in mapping the therapeutic process. Figure 1 shows the typical diagram used to show the functional ego states and a schematic egogram.

As you will see in the Literature Review below, we decided within this research to include consideration of an instrument that characterises Submissive Child and Rebellious Child as two distinct dimensions of the construct Adapted Child. The exploratory results showed the feasibility of an instrument with six factors and support the performance of confirmatory analyses, with new samples, in future research.

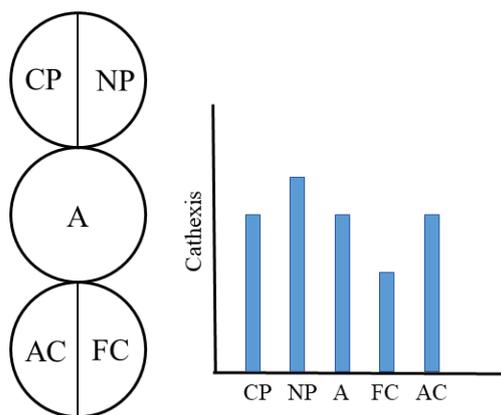


Figure 1. Functional analysis of the Ego States and a representation of a hypothetical egogram.

Literature Review

Initially, the egogram was the result of a large number of therapeutic reports, in which patients were asked about how they would like to be and how they perceived themselves. In the last five decades, some initiatives have tried to objectively measure the cathexis distribution in each ego state (for a review see Vos & van Rijn, 2021). During the 1970's, Dusay (1972) investigated the cathexis distribution in the egogram by means of clinical self-reports. Price (1975), in a more structured fashion, developed a self-report instrument (Likert-type scale) called the Price Ego State Scale, which presented, however, unsatisfactory levels of reliability. Brennan and McClenaghan (1978) developed a psychometric tool they called the Transaction Behavior Questionnaire (TBQ), which aimed to measure four important concepts of TA theory including ego states; however, this method also displayed subpar psychometric readings. Even though the authors reported a high clinical validity using the TBQ, they did not fully discuss the convergent validity (correlations between the TBQ and constructs represented in other related instruments). In the 1980's, Williams and Williams (1980) developed a procedure to evaluate the ego states and their functional aspects using an adjective classification procedure, known as the Adjective Check List (TA-Scales), developed by Gough (1960). In this investigation, fifteen specialists in TA theory classified 300 adjectives according to the ego states. A total of 65 adjectives were selected as valid representatives of the investigated ego states. The objective of this study was to develop a classification of adjectives which could assist the patient in the description and scoring process involved in the construction of an egogram. Although the results of the Williams and Williams study pointed, once again, to a possible relevance in clinical applications, there were no psychometric

reliability parameters reported in the investigation. Subsequently, Turner (1988) proposed the creation of a projective instrument, the Parent-Adult-Child Drawing Task (PAC-D), developed in order to assess the ego states during the therapeutic process; this instrument presented with a non-validated interpretation method and poor psychometric quality.

In the 1990's, Suematsu, Shinzato and Wada (1993) proposed an instrument to assess five ego states, known as the Tokyo University Egogram. Since then, numerous investigations used the questionnaire, indicating good psychometric qualities (Bando, 2018; Bando and Yokoyama, 2018; Shinoda, Nakashita, Hamada, Hirono, Ito, Miyagi ... and Maeda, 2018; Yokoyama and Bando, 2018, 2019). However, this instrument has only been validated for use in Japan and China (Vos & van Rijn, 2021).

Loffredo and Omizo (1997) proposed a self-report questionnaire known as the Ego State Questionnaire (ESQ). This instrument was validated based on content validity criteria and showed a psychometric reliability index (*Cronbach's alpha*), considered modest. Loffredo, Harrington and Okech (2002) expanded on this investigation by carrying out a new analysis and introducing new items to this questionnaire, which resulted in a revised version of the instrument consisting of 40 items (Loffredo, Harrington, Munoz and Knowles, 2004) and showed good psychometric ratings. However, despite the significant advances obtained by Loffredo et al. (2002, 2004), this instrument still does not have a broad translation nor a cross-cultural adaptation. Laghi, Crea, Filippini and Cavallero (2020) investigated the psychometric properties of the Italian version of the ESQ-R and showed a good construct validity of the five ego states. However, the reliability index of Adapted Child (AC) was relatively low (.57). This fact may suggest the need to represent AC as a state composed by distinct dimensions characterised as Submissive Child and Rebellious Child.

Method

Participants

The present study had the voluntary participation of 295 healthy individuals, of both sexes, distributed in the age group of 18 to 70 years. Table 1 presents a summary of the demographic information of the investigated sample. All procedures adopted in this investigation were approved by the Research Ethics Committee of the Federal University of Uberlândia, Brazil.

Instrument

Initially, 70 items were proposed, taking into consideration the theoretical aspects of ego states (Berne, 1985; Heathcote, 2010; Laghi et al., 2020). Items were constructed taking into account the characteristics of the six ego states:

Variables		Frequency	%
Sex	Male	137	46.44
	Female	158	53.56
Age	18 – 20 years old	108	36.61
	21 – 30 years old	110	37.29
	31 – 40 years old	40	13.56
	41 – 50 years old	19	6.44
	51 – 60 years old	11	3.73
	61 – 81 years old	07	2.37
Level of Schooling	Completed basic studies	3	1.02
	Yet to finish high school	13	4.41
	Completed high school	63	21.36
	Yet to finish college	169	57.29
	Complete college	29	9.83
	Obtained a graduate degree	18	6.10
Civil Status	Single	212	71.86
	Married	76	25.76
	Divorced	04	1.36
	Widowed	02	0.68
	SR	01	0.34

Note. SR = No answer

Table 1: Sociodemographic data (295 participants)

- **Critical Parent:** represented by behaviours that reflect the structuring of norms, principles and precepts that can present positive and negative aspects. Its positive aspect is the behaviours that represent guidelines towards others that aim at their protection and well-being. Its negative aspect is expressed in discounting behaviours and non-constructive criticism about the actions of others.
- **Nurturing Parent:** represented by behaviours towards others that reflect sheltering, encouragement and recognition in the face of the need for attention and care. Its negative aspect is manifested in harmful behaviours when excessive solicitude becomes an obstacle to the development of autonomy.
- **Adult:** represented by behaviours that reflect the integration of feelings, the analysis of objective data, information and experiences of the here-and-now, as well as knowledge about everyday reality. Its positive aspect is assertiveness and thoughtfulness. Its negative aspect is manifested in excessively rational and emotionally detached behaviours.
- **Free Child:** represented by behaviours that reflect the fundamental needs for interaction, emotions and sensations that naturally emerge in early stages of development in the individual and ignore rules established by parental limits. Its positive aspect is the flexibility and openness to new experiences. Its negative aspect is irresponsible behaviour and lack of restraint.
- **Adapted Child - Submissive:** represented by adaptive submission behaviours. Its negative aspect is the excessive need for approval and passivity in face of what is imposed on it. Its positive aspect is represented by behaviours that reflect social adaptation.
- **Adapted Child - Rebellious:** represented by behaviours of opposition to the rules in order to draw attention in a contesting manner, it is cunning, rebellious, envious, disorderly and takes pleasure in opposing whatever or whoever. Its positive aspect is represented by questioning behaviours that reinforce autonomy.

The items were subjected to a qualitative assessment as to the theoretical relevance, the clarity of language, and the practical pertinence. Each item was analysed by experts in therapeutic practices and members of the National Union of Transactional Analysts (UNAT-Brazil). After this preliminary qualitative analysis, and conducting theoretical and semantic adjustments, the items was answered by the sample of participants through a Likert scale of five points (0) Not at all characteristic; (1) Not very characteristic; (2) Characteristic; (3) Very characteristic, and (4) Totally characteristic.

Procedure

The participation was voluntary and the responses were anonymous. Participants responded to the inventory in a suitable place. The inventory took between 20 and 30 minutes to complete.

Data analysis

The JASP program version 0.14.1 (JASP Team, 2020) was used to analyse the data. An exploratory factor analysis (EFA) was performed with an estimation method of principal axis factoring with varimax orthogonal rotation solution to explore the factor structure of the inventory. The reliability of scales was estimated using the McDonald's reliability index and values above .70 were considered desirable.

Results

The exploratory analysis of the 70 items confirmed that the six factors model was adequate. The suitability of the intercorrelation matrix for factor analysis was demonstrated by KMO (.812), and a significant Bartlett's test of sphericity ($\chi^2[2415] = 8481.872, p < .001$) suggested a suitable factor loading. The Scree Test indicated a six-factors solution as adequately fits the data (Figure 2). The factorial load analysis

suggested that 37 items are robust to represent the six factors model.

Table 2 shows the 37 items selected to represent the six factors investigated (English translation), followed by the original Portuguese version. In some aspects, the English translation will fail to catch the exact meaning in Portuguese version, but will give readers some idea of the content. Rather than include another table, we have added into Table 2 a column showing the factor loads of items for each ego state. Table 3 shows the scale parameters (reliability, mean, standard deviation).

Limitations

The instrument has been developed in one country (Brazil) and in the Portuguese language. More studies are needed for its application in other contexts. Second, many of the participants were under the age of 30 years, had not finished college and were single. These aspects limit the generalisability of the present results, and a future investigation, with a new sample, will allow us to carry out a confirmatory factor analysis of the instrument.

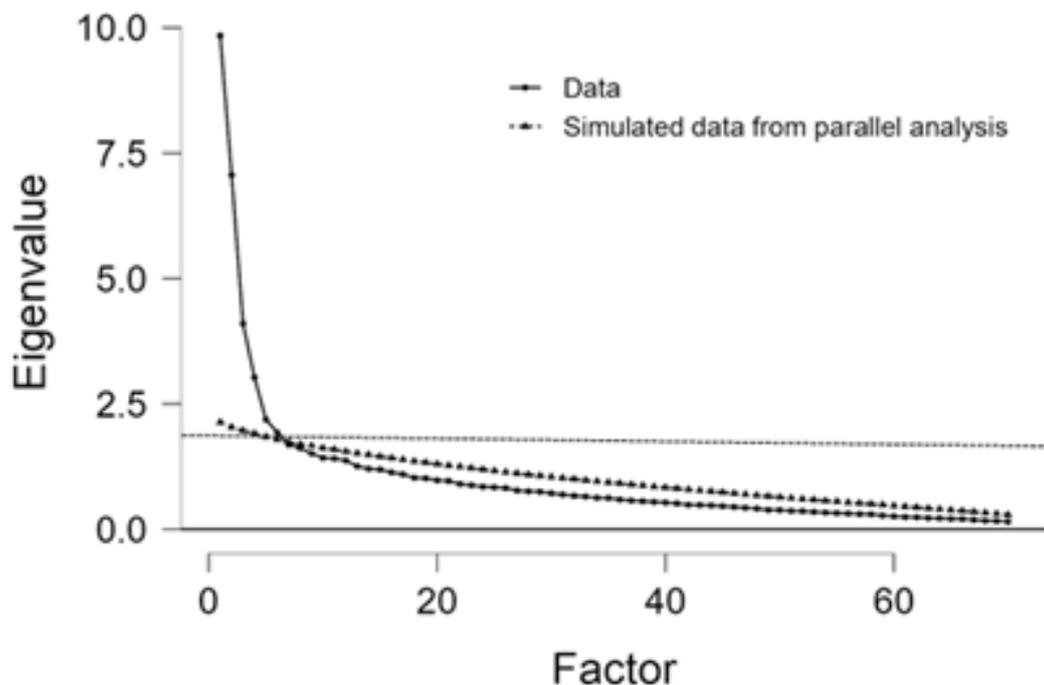


Figure 2. Scree plot of six selected factor suggested by parallel analysis.

		Exploratory factor load
CP	1. I'm happy to contradict people	.518
	2. I think about revenge when someone contradicts me	.644
	3. I have a hard time accepting people as they are	.505
	4. I like to tease people	.586
	5. I like to confront people	.513
	6. I get annoyed when people don't do what I say	.591
NP	1. I know how to deal with emotional situations	.610
	2. I'm a competent person	.599
	3. I can express my feelings	.530
	4. I feel willing to carry out activities	.520
	5. I solve the problems presented to me	.585
	6. My ideas help the development of others	.530
	7. In group situations, I get ready to perform tasks.	.380
ARC	1. I confront the rules	.402
	2. I do what I want regardless of what people will think about me	.392
	3. I feel like the world would be better without rules	.335
	4. I do what I want	.341
	5. I'm a questioning person	.315
A	1. I analyze the facts and data before making decisions	.519
	2. I make decisions based on the information collected	.528
	3. Before I take action, I take into account my information	.626
	4. I'm sincere in my opinions	.434
	5. I plan everything	.365
	6. I'm waiting for my turn to be answered	.386
	7. I'm attentive to people	.378
ASC	1. I feel like I should take care of people	.491
	2. I do other people's activities to help them	.470
	3. I'm in the habit of praising people	.354
	4. I feel it's my duty to advise others	.548
	5. I feel like I should protect people	.466
	6. Even without need, I worry about others	.494
FC	1. I like to get involved in new activities	.364
	2. I like to enjoy life	.493
	3. I like to share good times with my friends	.554
	4. I like being with spontaneous people	.351
	5. I like to go to parties	.658
	6. I like to organize festive meetings	.551

Table 2: Inventory Content (English) and Factor Loads

CP	<ol style="list-style-type: none"> 1. Sinto prazer em contrariar as pessoas. 2. Penso em me vingar quando sou contrariado. 3. Tenho dificuldade em aceitar as pessoas como elas são. 4. Gosto de provocar as pessoas. 5. Gosto de confrontar as pessoas. 6. Quando não fazem o que digo, fico irritado.
NP	<ol style="list-style-type: none"> 1. Sei lidar com situações emotivas. 2. Considero-me uma pessoa competente. 3. Consigo expressar meus sentimentos. 4. Me sinto disposto (a) para realizar atividades. 5. Quando me apresentam um problema, resolvo-o. 6. Minhas ideias auxiliam o desenvolvimento dos outros. 7. Em situações grupais, me disponho a assumir tarefas
ARC	<ol style="list-style-type: none"> 1. Questiono regras. 2. Gosto de fazer o que quero, independentemente do que as pessoas vão pensar. 3. Sinto que o mundo seria melhor sem regras. 4. Faço o que quero. 5. Sou uma pessoa questionadora.
A	<ol style="list-style-type: none"> 1. Analiso fatos e dados para tomar decisões. 2. Tomo decisões com base em informações coletadas. 3. Antes de agir frente a situações, levo em conta as informações que tenho. 4. Sou sincero(a) em minhas opiniões. 5. Planejo tudo antecipadamente. 6.guardo minha vez ao ser atendido(a). 7. Sou atencioso(a) com as pessoas.
ASC	<ol style="list-style-type: none"> 1. Sinto que devo cuidar das pessoas. 2. Faço atividades de outros para ajudá-los. 3. Costumo elogiar as pessoas 4. É meu dever aconselhar os outros. 5. Sinto que devo proteger as pessoas. 6. Mesmo sem necessidade, me preocupo com os outros.
FC	<ol style="list-style-type: none"> 6. Gosto de me envolver em novas atividades. 7. Gosto de aproveitar a vida. 8. Gosto de compartilhar bons momentos com meus amigos. 9. Gosto de estar com pessoas espontâneas. 10. Gosto de ir a festas. 11. Gosto de organizar encontros festivos.

Table 2 continued: Inventory Content (Portuguese)

	Reliability	Mean (sd)
Scales	ω	General
CP	0.75	.803 (.676)
NP	0.79	2.414 (.694)
ARC	0.70	1.641 (.768)
A	0.72	2.882 (.608)
ASC	0.72	2.418 (.701)
FC	0.75	2.680 (.740)

Note. CP = Critical Parent, NP = Nurturing Parent, A = Adult, FC = Free Child, ARC = Adapted Rebellious Child, ASC = Adapted Submissive Child. (ω) = McDonald's omega.

Table 3: Scales parameters (reliability, mean, standard deviation)

Conclusion

TA theory leads us to hypothesise the existence of a certain amount of psychic energy allocated in each of the ego states. This psychic energy is called cathexis (Berne, 1961; Heathcote, 2010; Messina & Sambin, 2015) and expresses the magnitude of the characteristic behaviours of each ego state, which, in turn, characterises the personality patterns. The present investigation aimed to propose a new psychometric instrument to objectively measure the ego states. This instrument is characterised by six factors: Critical Parent (CP), Nurturing Parent (NP), Adult (A), Free Child (FC), Adapted Child – Submissive (ACS), and Adapted Child – Rebellious (ACR). This instrument allows the representation of an egogram of six ego states. Although it requires more research to better confirm the validation of the instrument (confirmatory factor analysis with a new sample), this instrument is promising and can be used in monitoring the progress of therapeutic interventions.

Renata Cristina Brandão Rossini MSc is a Specialist Member of UNAT (Brazilian Transactional Association) and a psychologist. She can be contacted at rbrandaorossini@yahoo.com.br

Ederaldo José Lopes PhD is Professor (Full) at Universidade Federal de Uberlândia (UFU).

Joaquim Carlos Rossini, Doctor of Psychology, is a Professor (Full) at Universidade Federal de Uberlândia (UFU)

References

Bando, H., Yokoyama, T. (2018). Use of Egogram for Psychological Development of the Adolescence. *Semin Thromb Hemost*, 31(3), 302-306. <https://doi.org/10.19080/PBSIJ.2018.09.555770>

Bando, H. (2018). Psychological study of egogram can be helpful medically and socially for better life. *Arch Psychiatry Behav Sci*, 1, 11-4.

Berne, E. (1961). *Transactional analysis: A systematic individual and social psychiatry*. London. <https://doi.org/10.1037/11495-000>

Berne, E. (1985). *Análise transacional em psicoterapia*. Summus.

Brennan, T., McClenaghan, J. C. (1978). The transactional behavior questionnaire. *Transactional Analysis Journal*, 8(1), 52-55. <https://doi.org/10.1177/036215377800800115>

Dusay, J. M. (1972). Egograms and the "constancy hypothesis". *Transactional Analysis Bulletin*, 2(3), 37-41. <https://doi.org/10.1177/036215377200200313>

Dusay, J. M. (1977). *Egograms: How I see you and you see me*. Harper & Row Publisher.

Gough, H. G. (1960). The adjective check list as a personality assessment research technique. *Psychological Reports*, 6(1), 107-122. <https://doi.org/10.2466/PRO.6.1.107-122>

Heathcote, A. (2010). Eric Berne's Development of Ego State Theory: Where Did It All Begin and Who Influenced Him? *Transactional Analysis Journal*, 40(3-4), 254-260. <https://doi.org/10.1177/036215371004000310>

JASP Team (2020). *Jeffreys's Amazing Statistics Program (JASP) (Version 0.14.1)*. [Computer software].

Laghi, F., Crea, G., Filipponi, C. (2020). Evaluation and Measurement of Ego States. *International Journal of Transactional Analysis Research & Practice*, 11(2), 14-24. <https://doi.org/10.29044/v11i2p14>

- Loffredo, D. A., Omizo, M. M. (1997). Differences in ego states, locus of control, and dogmatism between African-American and Anglo-American undergraduate college students. *Transactional Analysis Journal*, 27(3), 168-174.
<https://doi.org/10.1177/036215379702700304>
- Loffredo, D. A., Harrington, R., Okech, A. P. (2002). Factor analysis of the ego state questionnaire. *Transactional Analysis Journal*, 32(1), 25-27.
<https://doi.org/10.1177/036215370203200104>
- Loffredo, D. A., Harrington, R., Munoz, M. K., Knowles, L. R. (2004). The ego state questionnaire-Revised. *Transactional Analysis Journal*, 34(1), 90-95. <https://doi.org/10.1177/036215370403400110>
- Messina, I., Sambin, M. (2015). Berne's Theory of Cathexis and Its Links to Modern Neuroscience. *Transactional Analysis Journal*, 45(1), 48-58.
<https://doi.org/10.1177/0362153714566596>
- Price, D. A. (1975). A paper and pencil instrument to measure ego states. *Transactional Analysis Bulletin*, 5(3), 242-246.
<https://doi.org/10.1177/036215377500500306>
- Shinoda, T., Nakashita, S., Hamada, M., Hirono, K., Ito, M., Miyagi, T., Maeda, T. (2018). Egogram characteristics in Japanese patients with Parkinson's disease. *Neurology and Clinical Neuroscience*, 6(3), 71-76. <https://doi.org/10.1111/ncn3.12189>
- Suematsu, H., Shinzato, R., Wada, M. (1993). *TEG: University of Tokyo version of Egogram manual (2nd version)*. Tokyo: Kaneko Shobo.
- Turner, R. J. (1988). The parent-adult-child projective drawing task: A therapeutic tool in TA. *Transactional Analysis Journal*, 18(1), 60-67.
<https://doi.org/10.1177/036215378801800110>
- Vos, J., van Rijn, B. (2021). A systematic review of psychometric transactional analysis instruments. *Transactional Analysis Journal*, 51(2), 127-159.
<https://doi.org/10.1080/03621537.2021.1904360>
- Williams, K. B., Williams, J. E. (1980). The assessment of transactional analysis ego states via the adjective checklist. *Journal of Personality Assessment*, 44(2), 120-129.
https://doi.org/10.1207/s15327752jpa4402_2
- Yokoyama, T., Bando, H. (2018). Study of Personality Traits for University Students by Egogram Analysis. *Biomedical Journal of Scientific & Technical Research*, 9(3), 7116-7119.
<https://doi.org/10.26717/BJSTR.2018.09.001797>
- Yokoyama, T., Bando, H. (2019). Characteristic Egogram State of Younger Generation. *Edelweiss: Psychiatry Open Access*, 3(1), 25-28.
<https://doi.org/10.33805/2638-8073.120>