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ANALYSIS OF DIMENSIONS OF PROSOCIAL BEHAVIOR IN ARGENTINE'S

CHILDREN AND YOUNGERS

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Abstract

Summary. ─ The aim is to determine how many factors or dimensions could explain the prosocial behavior, from the point of view of motivation. A sample of 472 middle class children and adolescents, both sexes, from Buenos Aires, Argentina completed the Spanish version of Prosocial Tendencies Measure (Carlo & Randall, 2002). The results of both exploratory and confirmatory factor analyses suggest that a four-factor structure seems more appropriate to explain the motivations for carry out a prosocial behaviour than one of six factors, as proposed by Carlo and Randall (2002). Finally the correlations between the four dimensions found in this article reinforce the hypothesis that the only prosocial behaviour selflessly motivated is altruism.

1   *Analysis of Dimensions of Prosocial Behavior in Argentine's Children and Youngers*

2

3   *Introduction*

4   Prosocial behaviors are positive social acts carried out to promote the well-being

5   of others (Brief & Motowidlo, 1986). Eisenberg et al. (1999) asserts that prosocial

6   behavior is a voluntary behavior intended to benefit others, for instance, behaviors that

7   have the objective of helping, sharing, and comforting.

8   Given the importance of prosocial behavior considered as a buffer protection factor

9   against the aggression, and as a disposition that favors social skills, its assessment is

10   essential (Carlo, Mestre, Samper, Tur, & Armenta, 2010; Zimmer-Gembeck, Geiger, &

11   Cric, 2005). There are however different ways of prosocial behavior assessment.

12   In general the existing measures of prosocial behaviors are divided in global and

13   specific social behavior scales. Global prosocial behavior measures assess personal

14   tendencies to behave in a prosocial way across contexts and motives (Carlo & Randall,

15   2002). On the other hand, the assessment of prosocial behavior in a specific situation is

16   generally carried out through observational technique of children reaction in front of a

17   story, film, puppets, etc., that include a person, animal, etc., that need help. Moreover,

18   the assessments in a very specific context restrict the possibilities of generalizing and

19   present limitations concerning the method used.

20   Global prosocial behavior measures do not take into account that there are different

21   types of prosocial behavior, as help, cooperation or share, and that these behaviors can

22   respond to different kind of motivations, as feeling sorry, showing up with significant

23   others, or feeling intrinsically motivated to help without expecting anything in return.

1   There is evidence that there are different types of prosocial behaviors that have

2   different personal and situational correlates. It would seem then that prosocial behavior

3   is more than global, multidimensional.

4   Many prosocial behaviors are motivated for factors as hoping of receiving a reward,

5   social approval or the wish to relieve internal negative states. But prosocial behaviors

6   include also altruistic behavior, i.e. behaviors motivated by the sympathy toward others

7   or by the wish of supporting internalized moral principles (Eisenberg, et al. 1999).

8   It is important to clarify the difference between prosocial behavior in general and

9   altruism. Altruistic people are who assist primarily for other-oriented or moral reasons

10   without regard to external rewards and punishments (Carlo et al, 1991).

11   Research concerning prosocial behavior suggests that it has not been considered as a

12   unitary construct, but as a multidimensional one. Furthermore, evidence exists that

13   there are different kinds of prosocial behavior that have made possible the construction

14   of different measures to assess them.

15   One of the measures that assess different types of prosocial behavior is that

16   proposed by Carlo and Randall (2002) that is based on the different types of motivation

17   that lead to the prosocial behaviors.

18   These authors divide prosocial behavior in six types: (1) Altruistic: voluntary

19   helping motivated primarily by concern for the need and welfare of others, (2)

20   Compliant: helping others in response to request (3) Emotional: helping others under

21   emotionally evocative circumstances (4) Public: conducted, at least in part, by a desire

22   to gain the approval and respect of others and enhance one's self-worth (5) Anonymous:

23   performed without knowledge of whom is helped (6) Dire: helping in crisis or

24   emergency circumstances.

1   Based on recent findings we believe that these six types of prosocial behavior could

2   be reduced to a lower number. In a recent study Richaud, Mesurado, Fernandez, and

3   Carlo (2010) found that the altruism is intrinsically motivated and associated with

4   parental acceptance. Anonymous appeared positively associated with material rewards

5   that gave it a sense of extrinsic motivation. Although anonymous was defined as

6   helping performed without knowledge of whom helped (Carlo & Randall, 2002),

7   probably the behavior is communicated to significant others to have their approval or

8   other kind of reward. Public was associated with the extrinsic motivation of deriving

9   benefit looking well with others, and it was related to parental negligence and material

10   rewards. However, the results corresponding to compliance, dire and emotional were no

11   clear. From a psychometric point of view, the factors corresponding to compliant and

12   dire (Carlo & Randall, 2002) seem to be residuals due to the low variance accounted

13   for. From a theoretical perspective, it would seem that there is not a great difference,

14   emotionally speaking, between helping other in a crisis or emergency situation, and

15   helping other in situations that contain emotionally evocative cues, or helping others

16   when they require it in a situation of necessity.

17   Then the objective of this work is to determine how many factors or dimensions

18   could explain the prosocial behaviour, from the point of view of motivation.

19

20   Method

21   *Participants*

22   The sample of this study includes 472 middle class children, aged 10 to 16 (M=

23   12.41, SD= 1.57), of both sexes (271 boys and 201 girls), from primary and secondary

24   schools in Buenos Aires, Argentina.

1   *Ethical procedures*

2   Consent for this project was obtained at multiple levels. First, heads of schools at

3   potential research sites were asked to discuss the project with the researchers. They

4   were provided with a copy of the research proposal, and the characteristics of the

5   research were explained. Once permission was received from heads of schools, a letter

6   was sent to the household of each child explaining the aims of the project and

7   procedures to evaluate children. They were clearly told that participation was voluntary

8   and anonymous. Written permission from each father and mother was obtained before

9   the data collection began. Finally, children were informed of the purpose of the study.

10 They were then instructed on data collection procedures, and reminded that they could

11 refuse to answer questions if they chose to.

12 *Measures*

13   Children completed the Prosocial Tendencies Measure (PTM) (Carlo & Randall,

14 2002; Hardy & Carlo, 2005) translated and back-translated for the Argentinean sample

15 with the supervision of Carlo (2010). The PTM consists of 21 items that assess six types

16 of prosocial behaviors. The six types of prosocial behaviors in the PTM include public

17 (three items; sample item, "I can help others best when people are watching me"),

18 anonymous (four items; "I think that helping others without them knowing is the best

19 type of situation"), dire (three items; "I tend to help people who are in real crisis or

20 need"), emotional (five items; "I respond to helping others best when the situation is

21 highly emotional"), compliant (two items; "When people ask me to help them, I don't

22 hesitate"), and altruism (four items; "I often help even if I don't think I will get anything

23 out of helping"). Data were coded such that high scores on each of these scales reflect a

24 stronger endorsement. Participants were asked to rate the extent to which statements

1 described themselves on a 5-point scale ranging from 1 (does not describe me at all) to

2 5 (describes me greatly).

3 *Procedures*

4   The participants completed the questionnaire in the classroom, in groups of

5 approximately 20 children, during one session, in the presence of a trained psychologist.

6 No significant problems during the application of the questionnaire were reported by the

7 trained psychologist.

8

9 *Analysis*

10   Three exploratory factor analyses were carried out following the principal axis

11 method, Varimax rotation. The Kaiser-Meyer-Olkin adequacy sample measure (KMO),

12 and Bartlett's test of sphericity (BTS) had been calculated previously in order to assess

13 the possibility of a factor analysis of items. The internal consistency of the PTM

14 Spanish version was examined by conducting Cronbach's alpha analyses on each of the

15 PTM subscales Spanish version. Calculations were made using the SPSS statistical

16 package.

17   In order to decide about what model of dimensions of PTM fit better the data, two

18 confirmatory factor analyses were performed using AMOS 16.0 software. The

19 following goodness of fit indices were used: Chi-square, the ratio of the chi-square

20 statistic to degrees of freedom (X^2/df), the Goodness of Fit Index (GFI), Adjusted

21 Goodness of Fit Index (AGFI), Bentler-Bonett Normed Fit Index (NFI) and the

22 comparative fit index (CFI). Root Mean Residual (RMR) and Root Mean Square Error

23 of Approximation (RMSEA) were used to measure error.

24   Correlations between prosocial behavior dimensions were carried out.

1

2   Results

3   *Exploratory factor analyses*

4   Analyses of principal components and Varimax rotarion were conducted to explore

5   the adjacent factor structure of the items in the PTM Spanish version. The factor

6   analysis method and rotation were similar to those carried out for the authors. Due to

7   PTM had been analyzed by Carlo and Randall (2002) with an adolescents sample and

8   our sample included children and adolescents, three exploratory factor analyses were

9   conducted to control the influence of age: 1) for the total sample, 2) for 10 and 11 years,

10 children sample and 3) for 12 to 16 years, adolescent sample. In the verification of the

11 premises of the factor analysis, the factorability was considered satisfactory (KMO =

12 .88), and the hypothesis that the correlation matrix between the items is an identity

13 matrix was rejected (BTS = 3787.93, p = .000) for total sample; for children sample the

14 KMO was equal to .86 and the test of sphericity was equal to 1495.53, p = .000; and

15 finally for adolescent sample the KMO was equal to .84 and BTS was equal to 2046.44

16 p = .000. The criterion of a factor loading greater than |.40| was established for inclusion

17 of the items in the definition of factors. Analysis of the principal components with

18 varimax rotation and the Scree Plot revealed four contributing factors to explain the

19 59.98% of variance of the data for total sample, 60.5% of variance for children sample

20 and 56.2% for adolescent sample. The Cronbach's alpha coefficient for the PTM

21 Spanish version for total sample was α =.80, for children, α = .84, and for adolescents,

22 α = .71. The three factor analyses, Varimax solution, and the Cronbach alpha

23 coefficients for each component are shown in Table 1.

24

1   *Confirmatory factor analyses*

2   The exploratory factor analysis of Spanish version of PTM, carried out with the

3   sample of Argentine children and adolescents revealed clearly four factors, although

4   Carlo's previous studies had shown six factors. To verify which factor structure better

5   fit the empirical data obtained, we performed two different confirmatory analyses, one

6   of them as a function of the models tested in previous investigations (Carlo & Randall,

7   2002; Carlo, Hausmann, Christiansen, & Randall, 2003) and another with our solution

8   of four factors.

9   The results show that both models provide very good fit to the empirical data. The

10   results for the theoretical model of six factors were: χ^2 (174) = 469.83, $p <$. 000, χ^2/gl =

11   2.7; GFI = .91; AGFI = .88, NFI = .89, CFI = .93, RMSEA = .06 (Figure 1). The results

12   for the second model of four factors, were χ^2 (183) = 461.35, $p <$. 000, χ^2/gl = 2.5; GFI

13   = .91; AGFI = .89, NFI = .89, CFI = .93, RMSEA = .057 (Figure 2).

14   Although both models fit very well, the six factors model showed correlations of

15   above .90 between the factors Dire, Compliant and Emotional, which indicates that

16   these three factors are redundant (Kline, 1998). These three types of prosocial behavior

17   have been renamed Responsive.

18   In Table 2 the correlations between the four dimensions are presented.

19

20   Discussion

21   We have studied in Argentine children and adolescents, the Spanish Version of

22   Prosocial Tendencies Measure (PTM) (Carlo & Randall, 2002; Hardy & Carlo, 2005) as

23   a way of operationalizing prosocial behavior according to motivation. The PTM has

24   shown adequate psychometric properties, but it remained unclear the number of

1 dimensions underlying prosocial behaviour. The results of both exploratory and

2 confirmatory factor analyses, suggest that a four-factor structure seems more

3 appropriate to explain the motivations for carry out a prosocial behaviour than one of

4 six factors.

5   According to the model proposed by Carlo and Randall, prosocial behavior is

6 caused by five types of reasons: intrinsic motivation (Altruism), deriving benefit from

7 others (Public), receiving some kind of reward for behaving in a prosocial way without

8 the knowledge of the beneficiary (Anonymous) (Richaud, Mesurado, Fernandez, &

9 Carlo, 2010), to complain an other person request (Complain), to react in front of other

10 person crisis (Dire), and to sympathize with a high emotional state of another person

11 (Emotional) .

12   Although the exploratory factor analysis carried out for Carlo and Randall indicated

13 six factors corresponding to each type of motivation, as we mentioned above the factors

14 corresponding to compliant and dire (Carlo & Randall, 2002) seem to be residuals due

15 to the low variance accounted for. In the factor analysis carried out for the present

16 study, following the screening plot and keeping only the factors that explained more

17 than 10% of variance, we found only four factors. To compare the two models

18 concerning the number of dimensions underlying prosocial behavior in relation to

19 motivation, we carried out two confirmatory factor analyses. Although both of them

20 seem fit similarly well, we observed a very high correlation between Dire, Compliant

21 and Emotional, which indicates that these three factors measure the same (Kline, 1998).

22 These high correlations were also found in a study with Mexican and European

23 Americans early adolescents (r between .78 and .89) by Carlo, Knight, McGinley,

24 Zamboanga, and Hernandez Harvis (2010).

1   From a theoretical point of view, Dire, Emotional and Compliant would seem to be

2   elicited by an intense external demand: a serious crisis, a strong emotional state of

3   another person, or a concrete request. All three prosocial behaviors seem to be sub

4   dimensions of a general behavior that we call Responsive prosocial behavior. These

5   three types of prosocial behavior seem to have in common that all of them respond to an

6   external demand needed for eliciting the prosocial behaviour.

7   Finally, the correlations between the four dimensions proposed in this article,

8   indicated a positive relation between public and anonymous, and a negative one

9   between anonymous and public with altruism. At the same time, we found no

10   correlation between altruism and responsive, and a positive one between responsive and

11   public, and responsive and anonymous. Similar results were found by Carlo et al.

12   (2010) in Mexican American early adolescents. These results reinforce the hypothesis

13   that the only prosocial behaviour selflessly motivated is altruism that anonymous at the

14   same way of public is carried out searching some kind of benefit, and that responsive is

15   extrinsically motivated by certain kind of extreme emotional state of other person.

16   Summarizing there would be four types of motivations of prosocial behavior, but

17   the only one intrinsically caused is altruism

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Table 1. Varimax Rotated Factor Loadings for the Prosocial Tendencies Measure Items for the   Argentinean sample.

Items	Factor Analyses for Total Sample KMO = .88; Total Variance: 59.98%				Factor Analyses for 10 and 11 years N = 172 KMO = .86; Total Variance: 60.5%				Factor Analyses for 12 to 16 years N = 298 KMO = .84; Total Variance: 56.2%			
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 1	Factor 2	Factor 3	Factor 4	Factor 1	Factor 2	Factor 3	Factor 4
Responsive (Emotional 11)	.876				.866				.820			
Responsive (Emotional 2)	.836				.823				.780			
Responsive (Dire 8)	.817				.850				.686			
Responsive (Dire 5)	.791				.799				.714			
Responsive (Emotional 21)	.784				.761				.747			
Responsive (Compliant 16)	.781				.814				.565			
Responsive (Emotional 19)	.744				.758				.613			
Responsive (Compliant 6)	.738				.808				.565			
Responsive (Emotional 15)	.664				.669				.559			
Anonymous 10		.799				.759					.802	
Anonymous 14		.791				.777					.779	
Anonymous 7		.705				.647					.698	
Anonymous 17		.691				.533					.742	
Public 1			.814				.712			.820		
Public 3			.768				.642			.836		
Public 12			.728				.601			.705		
Dire 13			.502			.423						-.490
Altruism 18				.829				.826		-.583		.516
Altruism 4				.797				.741		-.559		.516
Altruism 9				.637				.726				.589
Altruism 20				.549								.702
Variance	27.2%	11.3%	10.9%	10.6%	29%	12.3%	10.1%	9.1%	21.3%	13.2%	11.13%	9.99%
α	.91	.76	.75	.72	.92	.72	.67	.63	.84	.79	.77	.73

For interpretation purposes, items with a factor loading of above |.40| were considered to load on each factor.
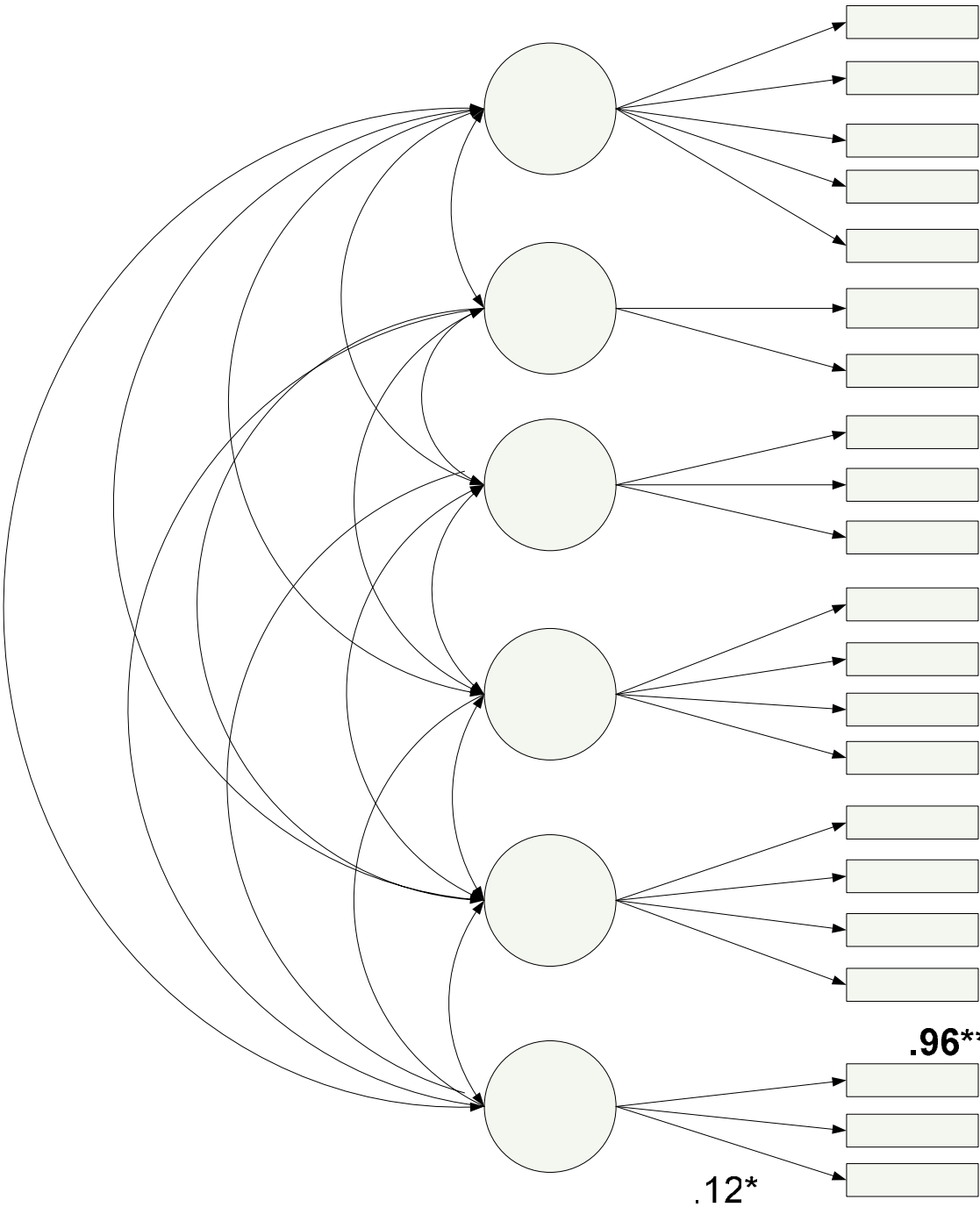
Table 2

Correlations of the Latent Factors of the Spanish version of PTM

	Public	Altruism	Anonymous	Responsive
Public	1			
Altruism	-,33***	1		
Anonymous	,25***	-,20***	1	
Responsive	,24***	,06	,11**	1

Note: *** *p* <. 001
       ** *p* <. 01

Figure 1

Standardized factor loadings and correlation of latent factor of the six factor structure of the Spanish version of PTM

.92

.96***

.12*

.94***

.09

.17**

Figure 2

Standardized factor loadings and correlation of latent factor of the final four factor
structure of the Spanish version of PTM