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## ANALYSIS OF DIMENSIONS OF PROSOCIAL BEHAVIOR IN AN ARGENTINEAN SAMPLE OF CHILDREN<sup>1</sup>

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*Summary.*—This study assessed how many motivational factors were required to explain scores for prosocial behavior, as measured by the Spanish version of the Prosocial Tendencies Measure. A sample of 472 middle class children and adolescents, both sexes, from Buenos Aires, Argentina, completed the Prosocial Tendencies Measure. This instrument presents prosocial behavior in six types: altruistic, compliant, emotional, public, anonymous, and dire. However, there is evidence that there should be a valid four-factor solution. To verify which factor structure better fit the empirical data obtained, two confirmatory analyses were performed. The results suggest that a four-factor structure (altruistic, public, anonymous, and responsive) is a more parsimonious explanation of the prosocial responses, compared to a six-factor solution. Finally the correlations between the four dimensions reinforced the hypothesis that altruism is the only prosocial behaviour that is selflessly motivated.

Prosocial behaviors are positive social acts carried out to promote the well-being of others (Brief & Motowidlo, 1986). Eisenberg, Guthrie, Murphy, Shepard, Cumberland, and Carlo (1999) suggested defining prosocial behavior as voluntary behavior intended to benefit others, for instance, behaviors that have the objective of helping, sharing, and comforting. Such behaviors can also be considered as a buffer factor protecting against aggression and as a disposition that favors social skills. Given the importance of prosocial behavior, its assessment is essential (Zimmer-Gembeck, Geiger, & Cric, 2005; Carlo, Mestre, Samper, Tur, & Armenta, 2010).

There are different ways of assessing prosocial behavior. In general, the existing measures are divided into global and specific social behavior scales. Global prosocial behavior measures assess personal tendencies to behave in a prosocial way across contexts and motives (Carlo & Randall, 2002). On the other hand, the assessment of specific prosocial behavior involves a specific situation, and is generally carried out through observations of children's reactions to a story, film, or puppets that include a person or animal needing help. Global prosocial behavior measures do not take into account that there are different types of prosocial behavior, such as helping, cooperation, or sharing, and that these behaviors can correspond to different kind of motivations, e.g., intrinsic or extrinsic (Ball, 1982).

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There is evidence that there are different types of prosocial behaviors which have different personal and situational correlates (Eisenberg, Cameron, Tryon, & Dodez, 1981). This suggests that prosocial behavior is multidimensional. Many prosocial behaviors are motivated with regard for such factors as hoping to receive a reward, social approval, or a desire to relieve internal negative states. However, prosocial behaviors also include altruistic behavior, i.e., behaviors motivated by the sympathy toward others or by the wish to support internalized moral principles (Eisenberg, *et al.* 1999).

Prosocial behavior is always positive, with or without altruistic motivation, and covers a broad range of activities toward other persons, including sympathy, cooperation, helping, and comforting. Altruistic behavior is always prosocial, but prosocial behavior is not always altruistic. Altruistic people are considered those who assist others primarily for other-oriented or moral reasons without regard to external rewards and punishments (Carlo, Eisenberg, Troyer, Switzer, & Speer, 1991). It is important to clarify the difference between prosocial behavior in general and altruism, because although these concepts are connected, they are also different. Carlo (2006) identified altruism as a category of prosocial tendencies, while prosocial behaviors are "voluntary actions that are intended to help or benefit another individual or group of individuals" (Eisenberg & Musen, 1989, p. 3).

Research concerning prosocial behavior has not considered the construct unitary (Batson, 1998; Eisenberg & Fabes, 1998; Carlo & Randall, 2002; Carlo, 2006). Several measures have been constructed to assess different types of prosocial behaviors, for example, Carlo and Randall's measure (2002), based on the different types of motivations that lead to prosocial behaviors. Specifically, altruism is defined as intrinsically motivated by the primary desire to benefit the other, is often displayed in the absence of obvious external rewards, and it usually incurs a cost to the self (Eisenberg & Fabes, 1998; Carlo & Randall, 2002). In contrast, other types of prosocial behaviors might be motivated by extrinsic processes or concerns (e.g., social approval, money, social power) or by the avoidance of punishment. Many authors consider all benefits to others of such actions relatively equal (Carlo, 2006). However, there is growing empirical evidence related to task-specific cognitive and emotional correlates of specific forms of prosocial behaviors (e.g., Carlo, Knight, Eisenberg, & Rotenberg, 1991). The differentiation of prosocial behaviors is needed to better account for those findings and to better explain prior inconsistent empirical relations between prosocial behaviors and theoretically relevant correlates.

Although there are many possible ways to classify prosocial behaviors, Carlo and Randall (2002) relied on prior theory and research (Latané

& Darley, 1970; Staub, 1978; Batson, 1998; Eisenberg & Fabes, 1998) to identify six common categories of prosocial tendencies (see Carlo & Randall, 2002; Carlo, Hausmann, Christiansen, & Randall, 2003), as follows. (1) Altruistic behavior is voluntary helping motivated primarily by concern for the need and welfare of others. (2) Compliant behavior is helping others in response to a request. (3) Emotional behavior is helping others under emotionally evocative circumstances. (4) Public behavior is conducted, at least in part, by a desire to gain the approval and respect of others and enhance one's self-worth. (5) Anonymous behavior is performed without knowledge of who is helped. (6) Dire behavior is helping in crisis or emergency circumstances.

In a recent study, the links between parental styles, practices, and empathy, and specific forms of prosocial behaviors in early adolescence were analyzed (Richaud, Mesurado, & Lemos, 2012). Correlations and hierarchical regressions were used to examine relationships between parental styles, children's perceptions of parental empathy, parental practices that parents use in the context of promoting prosocial behaviors in children, and children's prosocial behavior, as well as the unique predictiveness from parental styles, children's perceptions of parental empathy, and parental practices related to children's prosocial behavior. Results indicated that different aspects of parental actions (parental styles, practice, and empathy) have a differential relation according to the type of prosocial behavior involved. Altruism seems to be the only prosocial behavior that is intrinsically motivated, because it is associated with parental empathy and acceptance and negatively related to all parental practices specially developed to stimulate it. Thus, it would seem that children's altruism does not need any extrinsic motivation for its development and, on the contrary, stimulating altruism seem to conspire against it. The majority of practices are negatively correlated with altruism and positively correlated with the rest of prosocial behaviors. In contrast, public prosocial behavior is associated with pathological control from the mother, i.e., it is carried out to avoid a punishment or to obtain approval, and is related to parental practices as material reward, i.e., it needs an external reinforcement to be carried out. Although anonymous prosocial behavior may seem similar to altruism, the former is actually extrinsically motivated by the hope of receiving a material reward. Anonymous prosocial behavior correlates positively only with parental practices, mother's learning experience, and material rewards. Although the child expresses that he/she prefers helping without the knowledge of who is helped, he/she seems not to be interested solely in helping others but to expect a reward or stimulus from some significant other.

Results corresponding to the prosocial behaviors called Compliant,

Dire, and Emotional, taken separately, were not clear: no parental actions were related to Compliant, and only the parents' practice of experiential learning was correlated with Dire and Emotional. However, when these three prosocial behaviors (Compliant, Dire, and Emotional) were studied together, it was found that pathological control from the mother, extreme autonomy from the father, the mother's empathic concern, and the father's perspective taking were all important predictors. In consequence, it is hypothesized that restrictive control from the mother and permissiveness from the father combined with parental concern for others could cause emotional instability in the child. Prosocial behavior might be based on avoidance of a negative feeling of discomfort when confronted with a strong emotional situation due to the necessity or crisis of another person.

From a psychometric point of view, exploratory factor analysis carried out by Carlo and Randall (2002) indicated six factors, but those corresponding to Compliant and Dire are problematic, due to the low variance accounted for. In the confirmatory factor analysis carried out in a study with Mexican and European American early adolescents (Carlo, Knight, McGinley, Zamboanga, & Hernandez Jarvis, 2010), high correlations between Compliant, Dire, and Emotional were also found ( $r_s = .78$  to  $.89$ ). From a conceptual perspective, it would seem that there may not be a significant emotional difference between helping others in a crisis or emergency situation, helping in situations that contain emotionally evocative cues, or helping others when they require it in a situation of necessity.

The objective of this study was to assess how many factors or dimensions should be used to measure prosocial behaviour.

## METHOD

### *Participants*

The sample of this study included 472 middle class children, ages 10 to 16 years ( $M = 12.4$ ,  $SD = 1.6$ ), of both sexes (271 boys, 201 girls), from primary and secondary schools in Buenos Aires, Argentina.

### *Measures*

Children completed the Prosocial Tendencies Measure (PTM; Carlo & Randall, 2002; Hardy & Carlo, 2005), translated and back-translated for the Argentinean sample under the supervision of Carlo. The measure consists of 21 items that assess six types of prosocial behaviors, including Public (three items; e.g., "I can help others best when people are watching me"), Anonymous (four items; e.g., "I think that helping others without them knowing is the best type of situation"), Dire (three items; e.g., "I tend to help people who are in real crisis or need"), Emotional (five items; e.g., "I respond to helping others best when the situation is highly emo-

tional”), Compliant (two items; e.g., “When people ask me to help them, I don’t hesitate”), and Altruism (four items; e.g., “I often help even if I don’t think I will get anything out of helping”). Data were coded such that high scores on each of these scales reflected a stronger endorsement. Participants were asked to rate the extent to which statements described themselves on a 5-point rating scale ranging from 1: Does not describe me at all to 5: Describes me well.

*Procedures*

To administer the scales just described, school principals were interviewed and the research was explained in a note seeking their participation. The parents were asked for their permission through the school; participation was optional. The participants completed the questionnaire in the classroom, during one session in groups of approximately 20 children in the presence of a trained psychologist. No significant problems were reported by the trained psychologist during the administration of the questionnaire.

*Analysis*

To assess the dimensionality of the PTM, two confirmatory factor analyses were performed using AMOS 16.0 software. The AMOS analyses used the traditional chi-square value, the goodness-of-fit index (GFI), Adjusted goodness of fit index (AGFI), and the root mean square error of approximation (RMSEA). In addition, the Bentler-Bonett normed fit index (NFI), the incremental fit index (IFI), and the comparative fit index (CFI) were examined as recommended by Marsh, Balla, and Hau (1996). To study the significance of difference between the two models, chi-squared change was calculated (Byrne, 1989).

RESULTS

Descriptive statistics are presented in Table 1.

TABLE 1  
DESCRIPTIVE STATISTICS FOR SIX FACTORS OF THE PROSOCIAL TENDENCIES MEASURE (N = 472)

Factor	M	SD	Pearson Correlation					
			1	2	3	4	5	6
1. Altruistic	2.95	1.11						
2. Complaint	3.67	1.30	.10*					
3. Emotional	3.62	1.16	.07	.73†				
4. Public	2.91	1.22	-.33†	.12*	.22†			
5. Anonymous	2.99	1.95	-.20*	.01	.10*	.25†		
6. Dire	3.5	1.06	.02	.64†	.77†	.30†	.16*	
(Responsive)	3.59	1.56	.06			.24†	.11*	

Note.—Responsive is the sum of the factors Dire, Compliant, and Emotional. \* $p < .05$ . † $p < .01$ .

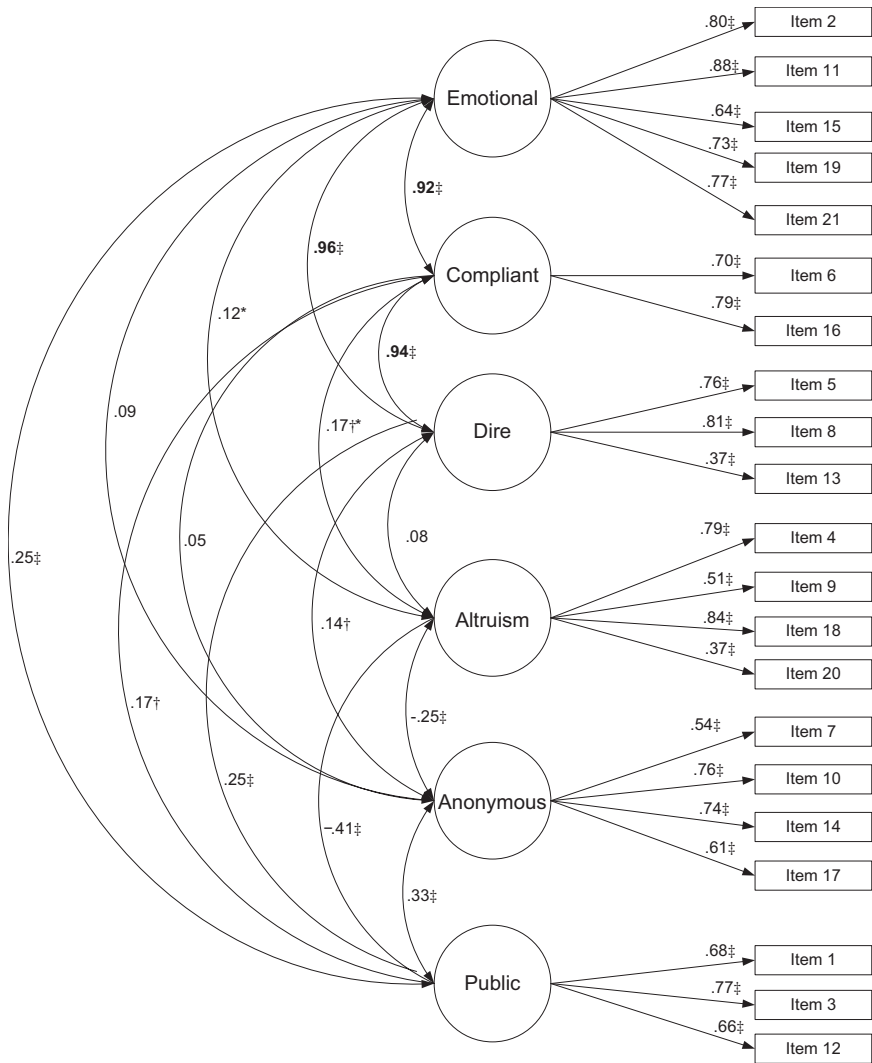


FIG. 1. Standardized factor loadings and correlation of latent factor of the six factor structure of the Spanish version of PTM. \* $p < .05$ . † $p < .01$ . ‡ $p < .001$ .

*Confirmatory Factor Analyses*

To verify which factor structure better fit the empirical data obtained, two different confirmatory analyses were performed, one of them as a function of the models tested in previous investigations (Carlo & Randall, 2002; Carlo, *et al.*, 2003) and another with a solution of four factors.



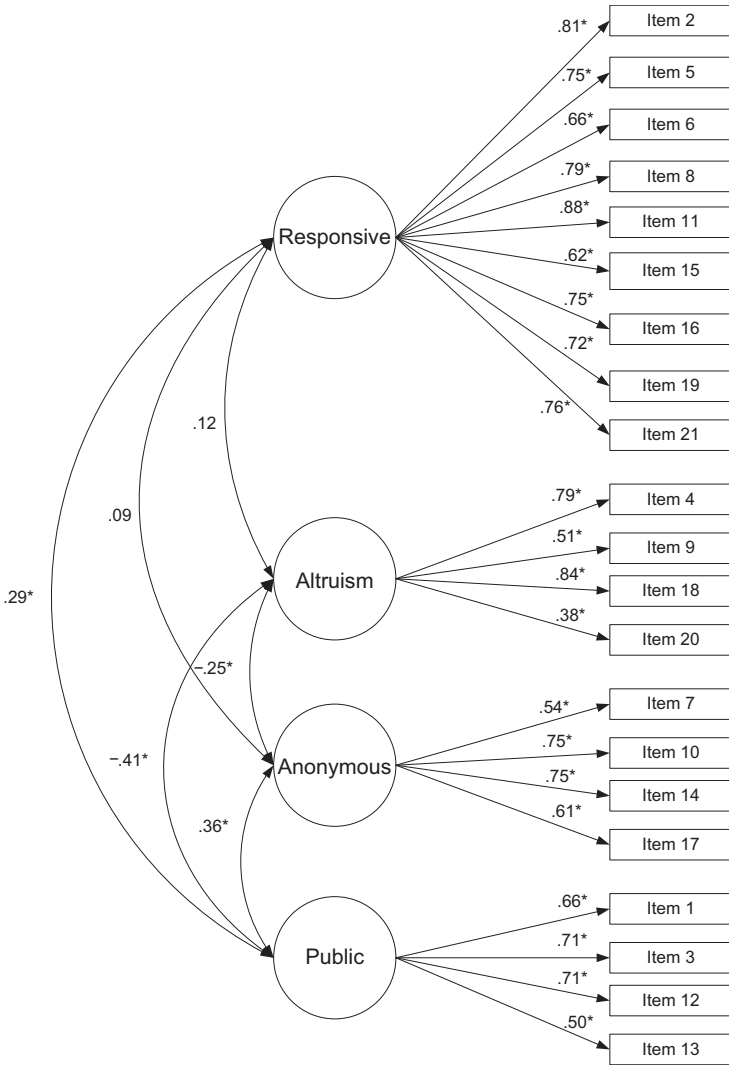


FIG. 2. Standardized factor loadings and correlation of latent factor of the final four factor structure of the Spanish version of PTM. \* $p < .001$ .

The results show that both models provide acceptable fit to the empirical data. The results for the theoretical six-factor model were  $\chi^2(174) = 469.83, p < .001, \chi^2 / df = 2.7; GFI = .91; AGFI = .88, NFI = .89, CFI = .93, IFI = .93, RMSEA = .06$  (Fig. 1). The results for the four-factor model were  $\chi^2(183) = 461.35, p < .001, \chi^2 / df = 2.5; GFI = .91; AGFI = .89, NFI = .89, CFI = .93, IFI = .93, RMSEA = .057$  (Fig. 2). The chi-squared difference test showed



that the increase in fit was not significant [ $\Delta\chi^2_{8,48}(9) = 745.48, p = .5$ ]. Models and results are shown in Figs. 1 and 2.

Although both models fit acceptably, the six-factor model showed correlations of above .90 between the factors Dire, Compliant, and Emotional, which indicated that these three factors were redundant (Kline, 1998). These three types of prosocial behavior were renamed together as Responsive. Four independent factors of the PMT were Responsive, Anonymous, Altruism, and Public.

#### DISCUSSION

In prior studies, the PTM has shown adequate psychometric properties, but there were questions about the high correlations between the latter factors, hence the proper number of dimensions underlying prosocial behaviour. The results of confirmatory factor analyses suggested that a four-factor structure was a more parsimonious representation of the motivations underlying prosocial behaviour.

Based on the original definitions, Dire, Emotional, and Compliant appear highly similar, as they all are expected to be elicited by an intense external demand: a serious crisis, a strong emotional state of another person, or a concrete request. These three types of prosocial behaviors seem to have in common that all of them respond to an external demand needed for eliciting the prosocial behaviour. Supporting this, the scales can be collapsed into one dimension of a general behaviour that we call Responsive prosocial behaviour. The resultant four-factor solution had an acceptable fit to the data.

Finally, the correlations between the proposed four dimensions also indicated a positive relation between Public and Anonymous, and negative relations for Anonymous and Public with Altruism. At the same time, there was no significant correlation between Altruism and Responsive, or Anonymous and Responsive, but a positive significant correlation was observed between Responsive and Public. Similar results were found by Carlo, Knight, McGinley, Zamboanga, and Hernandez Jarvis (2010) in Mexican American early adolescents. These results reinforce that the only prosocial behaviour selflessly motivated is Altruism; Anonymous, in the same way as Public, seems to be carried out for external rewards, whereas Responsive is extrinsically motivated by extreme emotional distress of another person.

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