Development and Evaluation of the Compassionate Altruism Scale

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EMOTIONS, PERSONALITY
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Abstract

The centrality of altruism in human evolution is increasingly recognized. Most prior research on altruism has used the Self-Report Altruism Scale (Johnson et al., 1989). Across cultures, males have scored higher than females on the SRAS. We found that many items in the SRAS show differential item functioning indicating bias against female test-takers. The biased items reflect altruistic actions requiring substantial physical effort or courageous public displays. In attempting to measure altruism without gender bias, we adapted the Social Support Behaviors Scale (Vaux et al., 1989), which assesses social support received from family and friends. We reversed the roles in the scales, changing the wording to express the frequency with which the test-taker provides support to others. We added a subscale for altruism toward strangers. The present study provides the initial psychometric evaluation of this new instrument, the Compassionate Altruism Scale.

Method

Participants

Participants were 450 community adults (85.4% female) who completed an online survey. Ages ranged from 18-72 years (M=30.4). Most were European Americans (60%) or Asian-Americans (19%).

Instruments

Participants completed the CAS, a brief Big Five Inventory, the Interpersonal Reactivity Inventory (Empathic Concern and Perspective-Taking), and the Interpersonal Guilt Questionnaire-67 subscales for Survivor Guilt (guilt over being better off than others) and Omnipotent Responsibility Guilt (exaggerated responsibility for the well-being of others).

CAS (sample questions)

	(a) Family			(b) Friends			(c) Strangers		
	Never	Rarely	Some-times	Often	Very often	Never	Rarely	Some-times	Often	Very often	Never	Rarely	Some-times	Often	Very often
Suggested doing something, just to take their mind off their problems	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Visited with them or invited them over	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Comforted them when they were upset	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Gave them a ride if they needed one	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Had lunch or dinner with them	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Looked after their belongings (house, pets, etc.) for awhile	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Results

To evaluate the psychometric structure of the three CAS subscales, we fit the items of each subscale (Altruism to Family, Friends, and Strangers) to the unidimensional Rasch partial credit model. For all subscales, mean item difficulties were set to 0. All three subscales fit the Rasch model well, with high person separation reliabilities (>.94) and item separation reliabilities (>.98). All three altruism subscales had Cronbach's alpha coefficients greater than .95; corrected item-total correlations ranged from .31-.79 across the three subscales. Scale items fit the Rasch model adequately (infit mean squares all < 1.50), with the exception of one "noisy" item ("Would loan a large sum of money"). Rasch logit measures for each participant were used in all subsequent analyses.

Differential Item Functioning by Gender

We also used Rasch scaling to assess for uniform differential item functioning (DIF) by gender. Item responses for males and females were equated to a common scale, then item difficulties (in logits), calculated separately for males and females, were compared. Differences in item difficulties less than half a logit indicate no serious DIF. The three figures at right provide plots of gender differences in item difficulties for each of the altruism subscales. Only one item showed evidence of slight DIF, with males finding it more difficult to affirm "Chatted with them" on the Altruism to Strangers subscale.

Validation Analyses

After anchoring subscales to a common frame of reference, we used a repeated-measures ANOVA to compare levels of altruism toward family (M=0.53), friends (M=0.51), and strangers (M=-0.02). There was a significant within-subjects effect, $F(2, 858)$ = 42.7, p<.001. Pair-wise comparisons found that altruism to strangers was significantly lower than altruism toward family and friends (both p<.001). There was no significant difference between altruism toward family and friends (p=.99).

Table 1 presents Pearson correlations among the altruism subscales and personality trait scales. All three altruism subscales were positively associated with Empathic Concern (all p<.01) and Perspective-taking (all p<.01), and with the Big Five traits of Agreeableness (all p<.05), Extraversion (all p<.01), and Openness (all p<.05). Altruism to Family was also associated with Conscientiousness (p<.01). Neuroticism was not significantly associated with altruism.

Both types of interpersonal guilt were significantly associated with Altruism to Friends (both p<.01). However, only Survivor Guilt was associated with Altruism to Strangers (p<.01), whereas only Omnipotent Responsibility Guilt was associated with Altruism to Family (p<.01).

We also conducted hierarchical multiple regressions to determine whether interpersonal guilt would improve the prediction of altruism beyond that predicted by empathy (based on changes in multiple R-squared). At step 1, we entered the Big Five factors; at Step 2, the two empathy scales; and at Step 3, the two interpersonal guilt scales. For all three altruism scales, the Big Five factors accounted for significant variance in altruism at step 1 (all p<.001). At step 2, the empathy scales yielded significant increases in variance explained for all three types of altruism (all p<.001). Finally, at step 3, interpersonal guilt significantly increased variance explained by both the Big Five and the empathy measures (all p<.01).

For Further Information

If you require additional information, please contact Jack Berry at jwberry@samford.edu or Lynn O'Connor at lynnoc@aol.com. The test instrument can be viewed at www.eparg.org/wright/culture.

Results (continued)

We used t-tests to compare men and women on the altruism scales (see Table 2); there were no significant gender differences. We also compared European American participants to Asian American participants (Table 2). (There were too few other ethnic groups for meaningful comparisons.) There were no significant differences on altruism to family and friends, but European Americans were significant higher in altruism to strangers.
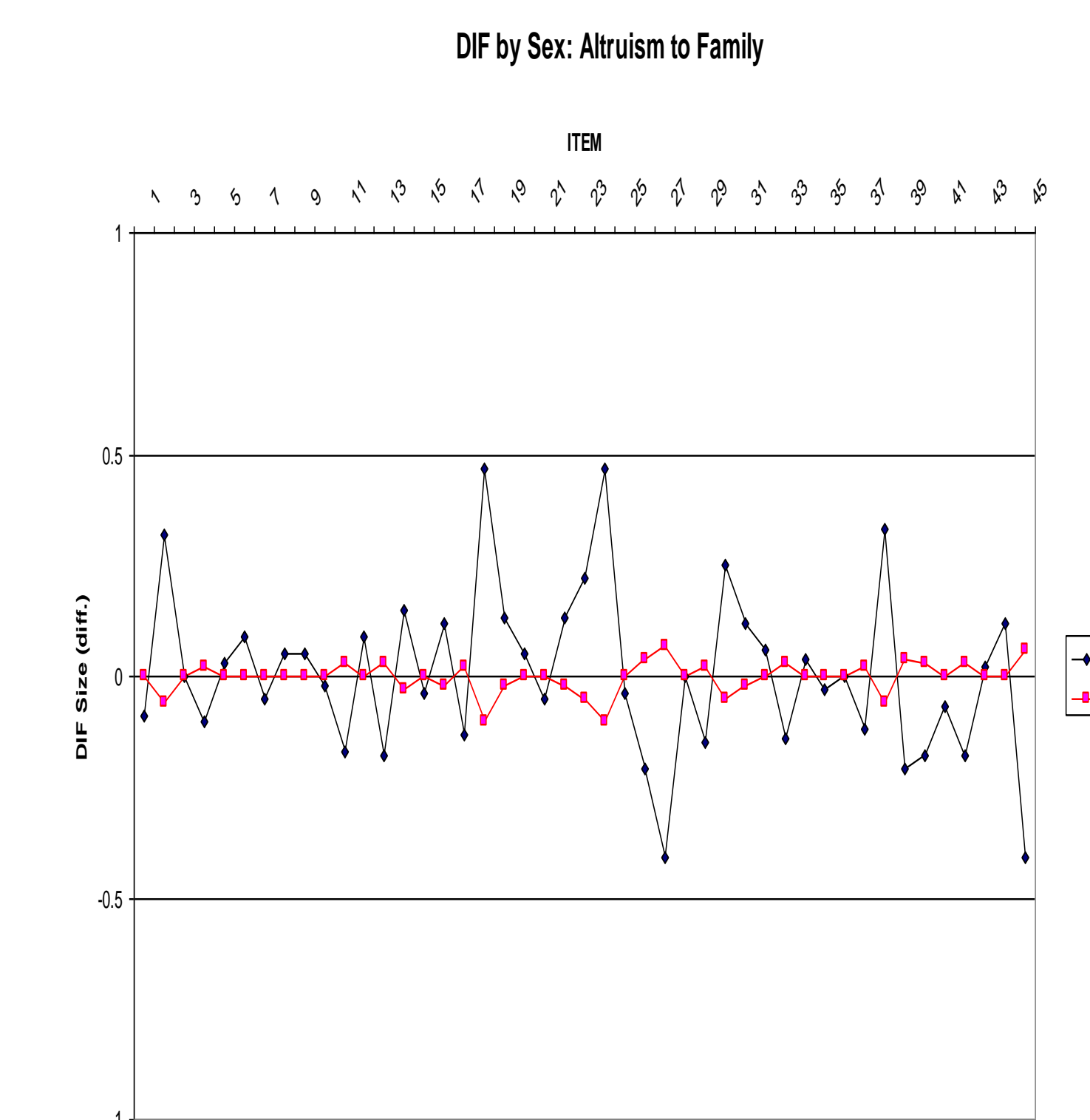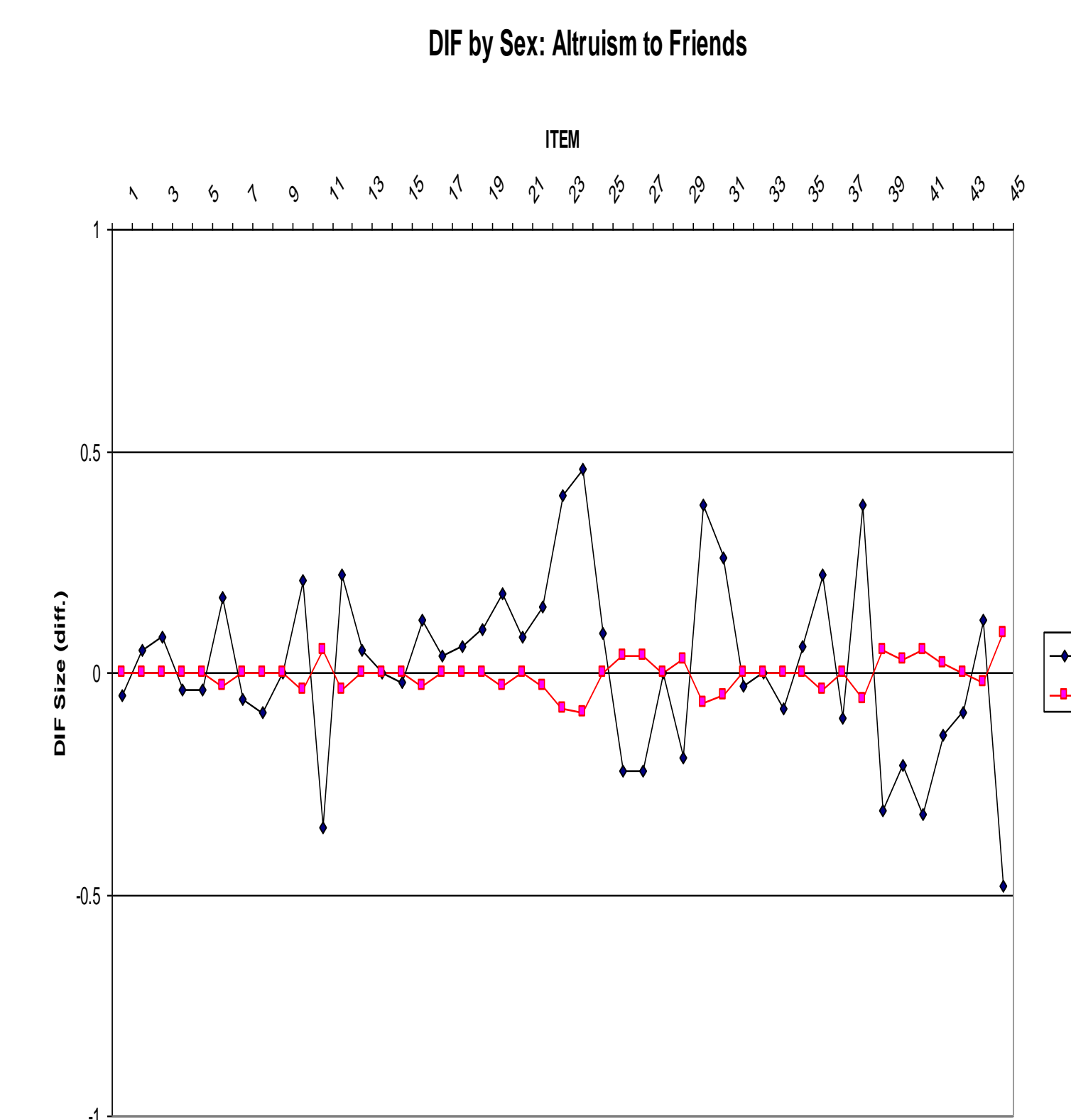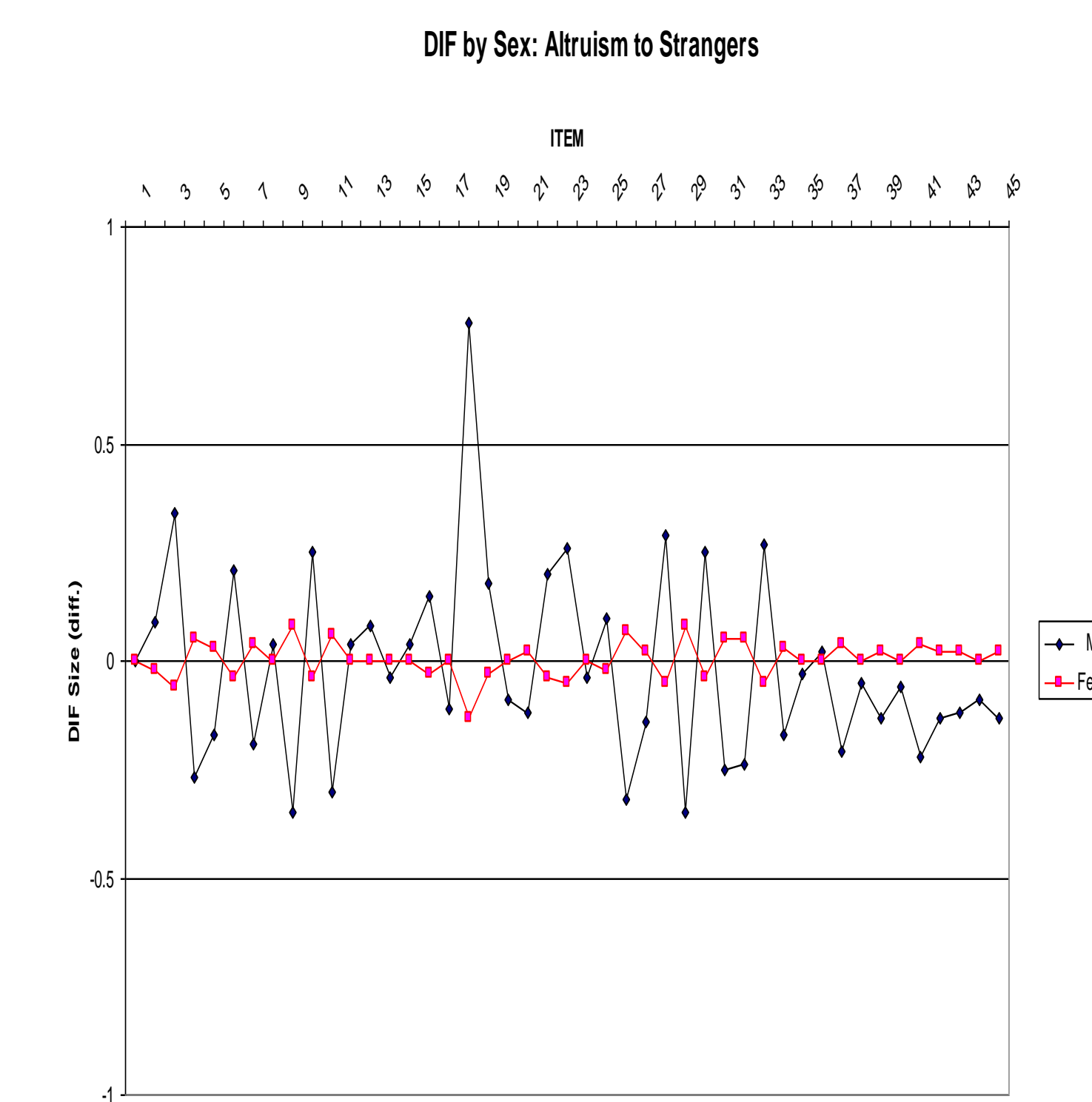

DIF by Sex: Altruism to Strangers

DIF by Sex: Altruism to Friends

DIF by Sex: Altruism to Family

Table 1. Correlations Between Altruism Subscales and Trait Scales

	Altruism: Family	Altruism: Friends	Altruism: Strangers
Altruism: Family	.	.72**	.25***
Altruism: Friends	.72**	.	.31**
Altruism: Strangers	.25**	.31**	.
Extraversion	.20**	.22**	.21**
Agreeableness	.25**	.22**	.11*
Conscientiousness	.14**	.09	.03
Neuroticism	-.06	.01	-.07
Openness	.12*	-.16**	.30**
Empathic Concern	.26**	.36**	.27**
Perspective Taking	.18**	.24**	.15**
Survivor Guilt	.05	.18**	.13**
Omnipotent Guilt	.17**	.20**	.03

*p<.05 **p<.01

Table 2. Gender and Ethnicity Comparisons

	Altruism: Family			Altruism: Friends			Altruism: Strangers		
	M	SD	t	M	SD	t	M	SD	t
Gender			-1.15, ns			-0.22, ns			1.20, ns
Male	0.98	1.3		1.28	1.2		-1.20	1.4	
Female	1.17	1.2		1.31	1.1		-1.44	1.4	
Ethnicity			0.29, ns			0.19, ns			-3.87***
Euro Am.	1.13	1.1		1.28	1.1		-1.29	1.3	
Asian Am.	1.18	1.3		1.30	1.1		-1.98	1.7	

***p<.001

Conclusions

We evaluated the psychometric functioning of a new Compassionate Altruism Scale (CAS) in a sample of 450 community adults. Rasch scaling, including differential item functioning analysis by gender, support the internal measurement structure. There was significantly less reported altruism toward strangers than toward family and friends, a finding consistent with evolutionary expectations.

Correlations with Big Five traits, empathy, and empathy-based guilt further support the construct validity of the CAS subscales. Unlike the findings reported using the potentially gender biased SRAS, there were no significant gender differences on any of the CAS subscales.

Although European and Asian Americans did not differ in altruism toward family and friends, European Americans reported significantly more altruism toward strangers than Asian Americans. Future research should explore whether such findings (if replicated) are attributable to the immigrant status of Asian Americans or to other cultural factors.