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Psychological maladjustment mediates the relation between recollections of parental rejection in childhood and adults' fear of intimacy in Italy

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Abstract

Grounded in interpersonal acceptance–rejection theory, this study examined the relation between recollections of parental rejection during childhood and fear of intimacy (FOI) in adulthood, as mediated by adults' psychological maladjustment. In Study 1, the Fear of Intimacy Scale (FIS) was adapted for use in Italy. Its psychometric properties were investigated in a sample of 635 adults (51% women; 18–35 years). Confirmatory factor analysis, reliability analysis, and measurement invariance analysis showed that the Italian version of the FIS is a valid, reliable, and gender invariant scale. In Study 2, the relations among adults' recollections of maternal and paternal rejection in childhood, current psychological maladjustment, and self-reported general FOI were investigated in a sample of 360 Italian adults (51% women; 18–35 years). Path analysis showed that the association between recollections of parental rejection during childhood and FOI in

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adulthood is fully mediated by psychological maladjustment, particularly emotional unresponsiveness, negative self-esteem, and dependency. This model was not moderated by gender. These results provide useful indications for the design of interventions aimed at reducing FOI.

Keywords
Childhood/adulthood, fear of intimacy, Italian validation, parental rejection, psychological maladjustment

In humans, good intimate interactions are important because they increase individuals' well-being and the quality of social relationships, which in turn enhance mating likelihood and, therefore, species survival (Smith & Mackie, 2007). A good intimate interaction is observed when individuals are able to disclose personal information and thoughts, perceive reciprocal acceptance, and feel understood, valued, and supported (Prager, 1995). Adults' positive intimate relationships have a crucial role in people's well-being and are associated with positive emotions of warmth, connectedness, and caring (Smith & Mackie, 2007). An intimate relationship can be with a friend or partner with whom there is an emotional tie, who is considered important to the individual, and who cannot be interchanged with anyone else (e.g., Rohner, 2005a). Studies show that attachment to an intimate partner increases individuals' well-being by enhancing the activity and efficacy of the brain reward system (Nummenmaa et al., 2015). People who have good intimate interactions have fewer stress-related symptoms (Collins & Feeney, 2000; Prager, 1995), higher marital satisfaction (Byers, 2005; Gottman, 2001; Henry & Miller, 2004), a lower probability of divorce (Stanley et al., 2002), and lower risk of suicide (Kazan et al., 2016).

Need for positive response. According to attachment theory (Bowlby, 1973), individuals have an innate system that stimulates bonding with others, especially caregivers, by activating positive emotions when close to those specific others, and negative emotions—such as anxiety or distress—when distant. As a consequence, from birth, interactive experiences with significant caregivers lead to the development of working models for the representation of the self and attachment relationships. These internal working models in turn influence later emotions, thoughts, and behaviors in other relationships (Bowlby, 1973; Furman et al., 2002; Truant et al., 1987; Walper & Wendt, 2015). The quality of interactions in the family of origin influences later psychological well-being (Simpson & Rholes, 2017) and the ways in which individuals relate to intimate partners and important others (see De Goede et al., 2012; Furman et al., 2014).

Fear of intimacy. Despite the benefits of positive intimate interactions, several studies have shown that some people have difficulty sharing personal thoughts and emotions with another person, especially a person who is important to them. Descutner and Thelen (1991) introduced the theoretical concept of fear of intimacy (FOI) to refer to the condition in which individuals are afraid to form an intimate relationship with significant

others. People who are high in FOI are more likely than people who are low in FOI to be psychologically maladjusted and to have negative self-esteem, marital problems, and an overall sense of dissatisfaction (Descutner & Thelen, 1991; Sherman & Thelen, 1996; Thelen et al., 2000). For children who experience a rejecting, cold, or uninvolved caregiver, the FOI can be an adaptive behavior (see Belsky et al., 1991; Chisholm, 1993; Del Giudice, 2009; van IJzendoorn & Sagi, 1999). Indeed, the experience of a risky and uncertain environment in the first years of life can influence individuals' expectations about the social world in general, thereby influencing the development of relational strategies congruent with these expectations (Belsky et al., 1991; Chisholm, 1993; Del Giudice, 2009; van IJzendoorn & Sagi, 1999).

Interpersonal acceptance–rejection theory. Interpersonal acceptance–rejection theory (IPARTheory), on which this study is based, is an evidence-based theory that focuses on the consequences and correlates of interpersonal relationships throughout the life span (Rohner, 2019; Rohner & Lansford, 2017). According to IPARTheory, all interpersonal relationships with significant others are characterized by an affectional bond that falls somewhere along the warmth dimension. This dimension is marked at one end by the perception of interpersonal acceptance (i.e., by the presence of perceived warmth, affection, care, love, and emotional support) and at the other end by the perception of rejection (i.e., by the presence of a variety of physically and psychologically hurtful behaviors and emotions; Rohner, 2019).

Several studies in different nations and cultural environments have shown that parental warmth not only promotes trust and reciprocity between parents and children (Darling & Steinberg, 1993; Maccoby & Martin, 1983) but is also associated with positive peer relationships in adolescence and overall psychological well-being in adulthood (Ip et al., 2008; Kim et al., 2007; Miranda et al., 2016). Moreover, adults' recollections of parental acceptance during childhood and acceptance in intimate relationships with partners in adulthood tend to be the strongest predictors of psychological adjustment (Ibrahim et al., 2015; Rohner & Khaleque, 2008, 2010).

The consequences of interpersonal relationships. Several theoretical models posit—and empirical studies confirm—the link between early experiences with parents and both psychological adjustment and intimacy in later important relationships. However, few studies have investigated in a systematic way the association between adults' recollections of parental care in childhood and adults' current FOI. A recent IPARTheory-related study using data from 13 countries, including Italy, demonstrated that independently of the culture and gender, adults' recollections of parental rejection during childhood are related to adults' current FOI, and that overall psychological maladjustment of the form known to be associated worldwide with the experience of parental rejection mediates the relation between adults' recollections of parental rejection in childhood and FOI in adulthood (Rohner et al., 2019). This form of maladjustment is termed the acceptance–rejection syndrome (ARS) in IPARTheory (Rohner, 2004). It includes seven personality dispositions: (1) hostility, anger, aggression, passive aggression, and problems with the management of hostility/aggression; (2) dependence or defensive independence, depending on the form, frequency, and duration of rejection; (3) negative self-esteem;

(4) negative self-adequacy; (5) emotional instability; (6) emotional unresponsiveness; and (7) negative worldview. Collectively, these seven dispositions constitute a well-researched indicator of overall psychological maladjustment (Rohner, 2019; Rohner & Lansford, 2017).

Another IPARTheory-related study examined Pakistani men's and women's recollections of their mothers' and fathers' acceptance and rejection during childhood in relation to their self-reports of psychological adjustment and FOI during adulthood (Khaleque et al., 2018). The authors found that both men and women who recalled their parents as being rejecting during childhood reported higher levels of psychological maladjustment and FOI during early and middle (but not later) adulthood.

In another study, researchers administered the Parental Bonding Instrument (Parker et al., 1979) and the Fear of Intimacy Scale (FIS; Descutner & Thelen, 1991) to a sample of university students from the United States (Phillips et al., 2013). Recalled parental care in childhood was negatively and weakly correlated with adults' FOI. Despite its merits, the study's findings warrant replication and extension because the sample was small and contained mostly women, the analyses were limited by the use of median splits, and the study did not clarify whether each parent had a specific effect on adults' FOI or investigate interrelations among recollections of parental experiences during childhood, psychological well-being, and FOI during adulthood.

Aims. The aims of the present study were twofold: (1) to validate the Italian version of the FIS (Descutner & Thelen, 1991; Doi & Thelen, 1993) and (2) to test a model predicting FOI in adulthood from adults' recollections of maternal and paternal acceptance–rejection in childhood and test whether this association is mediated by the form of maladjustment described in the ARS. Additionally, we examined the moderating effect of gender. It is meaningful to investigate the association between FOI in adulthood and recollections of childhood experiences with mothers and fathers in Italy because previously published studies have shown important differences in parental behavior between Italy and other nations (see Senese et al., 2012, 2016). Therefore, it is important to understand the extent to which the effects of parenting are equivalent in different sociocultural contexts. To address these aims, two independent studies were conducted. In Study 1, an Italian version of the FIS was developed and administered to a sample of 635 adults. Our objective was to investigate the psychometric properties of the measure and to explore its measurement invariance (MI) across genders. This is the first study to investigate the psychometric properties of the FIS by considering single items versus item parcels and to employ the Experiences in Close Relationships Scale (ECR-R) as a criterion measure to test the convergent and discriminant validity of the Italian FIS. In Study 2, the Italian version of the FIS—in conjunction with other self-reports described later—was administered to 360 adults to investigate the relation between adults' recollections of parental rejection in childhood, and their current FOI. A second objective of Study 2 was to test whether relations found in the first portion of Study 2 were mediated by the ARS. This is the first study in Italy to investigate the relation between recollections of parental rejection during childhood and adulthood FOI by taking into account the ARS. Finally, given that there is considerable research indicating

sex differences in attachment and attachment-related behaviors (see Del Giudice & Belsky, 2010), gender was examined as a potential moderator.

Study 1

The aim of this study was to validate the Italian version of the FIS (Descutner & Thelen, 1991). The FIS is a 35-item self-report questionnaire developed to measure anxiety about close relationships. The scale has two parts. In the first part, participants are asked to respond to items as they would if they were in a close relationship. In the second part, participants are asked to respond to items as they apply to their past relationships. For each item, participants are asked to respond to the statements on a 5-point Likert-type scale (from 1 = "not at all like me" to 5 = "extremely like me"), with high scores indicating higher FOI. In the validation study for the original English version of the measure, Descutner and Thelen (1991) executed a principal components analysis showing that the scale was unidimensional and had good reliability. With the exception of the Rohner et al.'s (2019) study that investigated only the factorial structure of the FIS and adopted a parcel approach, no other information is available in the literature regarding the latent structure of the FIS and its validity.

In the present study, the original 35-item FIS (Descutner & Thelen, 1991; Doi & Thelen, 1993) was translated into Italian by bilingual psychologists and then back-translated by an independent translator to verify the equivalence of the translated scale to the original one (van de Vijver & Tanzer, 2004). Subsequently, the Italian version of the scale was administered to a sample of adults to investigate the psychometric properties, including dimensionality, reliability, invariance, and validity. The ECR-R was employed to test the convergent and discriminant validity of the FIS. We expected that FOI would be strongly associated with attachment-related avoidance but weakly correlated with attachment-related anxiety. This is the first study to investigate the validity of the FIS by evaluating its association with the ECR-R.

Finally, because considerable research indicates sex differences in attachment and attachment-related behaviors (see Del Giudice & Belsky, 2010), a specific aim of the validation process was to test the MI of the FIS across genders. This is the first study to investigate the full MI of the Italian FIS across genders and to consider single items versus item parcels.

Method

Participants

A convenience sample of 635 adults (M age = 24.6 years, SD = 3.9; range = 18–35), 324 women (51%) and 311 men (49%), was drawn from different cities of the Campania region of Italy. Participants were recruited by asking each contacted participant to indicate other participants (maximum of three) of the same age. This procedure was used to facilitate the matching procedure as a function of gender. Participants' education levels varied from middle school to college (median = a few years of college).

Men and women did not differ from one another in age, $F < 1$, or education level, $\chi^2(5) = 1.01$, $p = .962$.

Procedure and measures

The Italian FIS and the ECR-R were administered in a random order. The sociodemographic questionnaire was administered last. Before administering the scales, participants were briefly instructed about the research and instruments. All participants gave their written informed consent before taking part in the study. All measures were administered in paper and pencil form. The study was conducted in accordance with the Helsinki declaration.

Sociodemographics. All participants completed a sociodemographic questionnaire.

Fear of Intimacy Scale. The Italian version of the 35-item FIS was administered to each participant. Three total scores were computed: a general FOI (GFoI) score, by summing items 1–30 (after reversing appropriate items); a past relationships FOI score (PRFoI), by summing items 31–35; and a total FOI score (TFoI), by summing items 1–35.

The ECR-R. The Italian version of the ECR-R scale (Busonera et al., 2014; Fraley et al., 2000) was administered to a randomly selected subsample of participants ($n = 330$) to test the convergent validity of the FIS. The ECR-R is a 36-item scale designed to measure two attachment-related dimensions, each with 18 items. The first subscale relates to the perceived availability and responsiveness of romantic partners as opposed to attachment-related anxiety. The second subscale relates to perceived comfort in being close to others as opposed to attachment-related avoidance. Participants rated each statement on a 7-point Likert-type scale from 1 = "strongly disagree" to 7 = "strongly agree," with higher scores indicating higher anxiety or avoidance. The ECR-R has good convergent and discriminant validity as well as test–retest reliability (Busonera et al., 2014). In this study, the two ECR-R subscales showed adequate reliability (Cronbach's αs > .70).

Data analyses

Analyses investigated the factorial structure of the FIS, the MI of the FIS across genders, and the concurrent validity of the FIS. Confirmatory factor analysis (CFA) and MI analysis were performed with LISREL 8.71 software. All other analyses were performed with R 3.4.3 software.

Confirmatory factor analysis. To evaluate the adequacy of the theoretical latent structure of the FIS, CFAs were carried out for different latent-scale configurations. Preliminarily, the fit of the 35-item unidimensional scale was evaluated. Then, three multifactorial models were compared to define the best fitting model: two 2-factor models and a 3-factor model. The multidimensional models were defined by

considering that the scale is composed of two different parts and that the direction of item wording can determine the presence of a correlated but specific factor (Spector et al., 1997). In the first 2-factor model (Model A), the first factor loaded the first 30 items related to GFoI (1–30), whereas the second factor loaded the last 5 items related to FOI in past relationships (PRFoI; 31–35). In the second 2-factor model (Model B), the first factor loaded the items worded in the direction of the construct (items: 1, 2, 4, 5, 9, 11, 12, 13, 15, 16, 20, 23, 24, 26, 28, 31–35), whereas the second factor loaded the reverse-coded items (items: 3, 6, 7, 8, 10, 14, 17, 18, 19, 21, 22, 25, 27, 29, 30). In the 3-factor model (Model C), the first factor loaded the items worded in the direction of the construct of the first part of the scale, the second factor loaded the reverse-coded items of the first part of the scale, and the third factor loaded the last 5 items (31–35).

Maximum likelihood estimation methods (ML) were used to test CFA models. To evaluate and compare the models, we used the ML ($ML\chi^2$) goodness-of-fit test statistics in combination with other practical tests of fit that are less dependent on N (Cheung & Rensvold, 2002; Kline, 2011): the root mean square error of approximation index (RMSEA), the comparative fit index (CFI), and the Akaike information criterion (AIC). The difference in $ML\chi^2$ statistics ($ML\chi^2_{diff}$) and CFI values (CFI_{diff}) and the absolute value of the AIC were used to compare the relative fit of the tested models (Kline, 2011).

Reliability. Reliability of the FIS was examined using Cronbach's α and the split-half test.

Construct validity. To evaluate the convergent validity of the FIS, Pearson's correlation coefficients between the FIS subscales and the ECR-R scale were computed. Hommel's (1988) correction to the p values of the correlation coefficients was applied to control the increase of type I error.

MI analysis and gender differences. The MI of the 35-item FIS across genders was analyzed following Vandenberg and Lance (2000) and Putnick and Bornstein (2016). In particular, configural, metric, scalar, and residual invariance were tested by comparing covariance matrices computed as a function of gender. The ML method was used, and the same goodness-of-fit test statistics as in the CFA were considered to verify the invariance of the matrices.

To compare scores of men and women on reported FOI, a one-way multivariate analysis of variance (MANOVA) was executed. In the MANOVA, gender was used as a two-level between-subject factor, and the total score on each of the two FIS subscales and the total FIS were considered as dependent variables. The partial χ^2 was computed to estimate the effect size of the mean differences. Moreover, to test whether gender differences were influenced by age, we replicated the analyses using age as a covariate.

Table 1. Confirmatory factor analyses goodness-of-fit indices of the fear of intimacy scale.

		Goodness-of-fit indices							
Model	RMSEA	CFI	NNFI	AIC	MLχ^2	*df*	MLχ^2_{diff}	df_{diff}	CFI_{diff}
1-Factor	.099	.918	.913	3537.9	3397.97***	560			
2-Factor A	.088	.933	.928	2877.4	2735.37***	559			
Difference: 2-factor A vs. 1-factor							662.6***	1	.015
2-Factor B	.082	.936	.932	2625.7	2483.75***	559			
Difference: 2-factor B versus. 1-factor							914.22***	1	.018
3-Factor C	.065	.955	.952	1900.9	1754.92***	557			
Difference: 3-factor C vs. 2-factor B							728.83***	2	.019

Note. RMSEA = root mean square error of approximation index, CFI = comparative fit index, NNFI = Non-Normed Fit Index, AIC = Akaike Information Criterion.
***$p < .001$.

Results

Confirmatory factor analysis

The latent structure of the FIS was tested by means of CFAs (see Table 1). Fit indices did not support the single-factor model. Therefore, 2-factor and 3-factor models were tested. Fit indices provided partial support for both 2-factor models (Models A and B) and indicated that both significantly improved the fit in comparison to the 1-factor model. The 3-factor model (Model C) fit significantly better than either 2-factor models. The comparison of the AIC index across the tested models confirmed that the 3-factor model (Model C) had the best fit to the data.

The standardized factor loadings of Model C ranged from .35 to .73 ($M = .55$) for the first factor that loaded GFoI items in the direction of FOI. The standard factor loadings for the second factor ranged from .42 to .77 ($M = .60$). This factor loaded reverse-coded items for GFoI. The standardized factor loading for the third factor ranged from .44 to .70 ($M = .59$). This factor loaded items related to PRFoI (see Table 2).

Factors were correlated $r = -.75$, $r = .50$, and $r = -.25$, respectively, for (a) GFoI subscales coded in the two directions, (b) GFoI and PRFoI, and (c) GFoI reverse-coded items and FOI in past relationship items. These results suggest the presence of a higher order factor of GFoI that can explain the significant correlations observed. This latter model was not tested as it is an equivalent model (Kline, 2011).

Reliability

Both the 30-item subscale and the 5-item subscale showed good internal consistency measured by either Cronbach's α (.91 and .73, respectively) or the split-half (.86 and .73, respectively). The total 35-item scale also showed good reliability (.91 and .87, respectively, for Cronbach's α and split-half).

Table 2. Standardized loadings of the 35 items on fear of intimacy scale factors.

Stem	Item[a]	Factor 1 [GFoI]	Factor 2 [GFoIR]	Factor 3 [PRFoI]
I would feel uncomfortable telling O about things in the past that I have felt ashamed of.	1	.43	—	—
I would feel uneasy talking with O about something that has hurt me deeply.	2	.57	—	—
I would feel comfortable expressing my true feelings to O.[b]	3	—	.53	—
If O were upset I would sometimes be afraid of showing that I care.	4	.44	—	—
I might be afraid to confide my innermost feelings to O.	5	.62	—	—
I would feel at ease telling O that I care about him/her.[b]	6	—	.42	—
I would have a feeling of complete togetherness with O.[b]	7	—	.42	—
I would be comfortable discussing significant problems with O.[b]	8	—	.58	—
A part of me would be afraid to make a long-term commitment to O.	9	.56	—	—
I would feel comfortable telling my experiences, even sad ones, to O.[b]	10	—	.59	—
I would probably feel nervous showing O strong feelings of affection.	11	.62	—	—
I would find it difficult being open with O about my personal thoughts.	12	.63	—	—
I would feel uneasy with O depending on me for emotional support.	13	.62	—	—
I would not be afraid to share with O what I dislike about myself.[b]	14	—	.51	—
I would be afraid to risk being hurt in order to establish a closer relationship with O.	15	.45	—	—
I would feel comfortable keeping very personal information to myself.	16	.65	—	—
I would not be nervous about being spontaneous with O.[b]	17	—	.58	—
I would feel comfortable telling O things that I do not tell other people.[b]	18	—	.67	—
I would feel comfortable trusting O with my deepest thoughts and feelings.[b]	19	—	.77	—
I would sometimes feel uneasy if O told me about very personal matters.	20	.56	—	—
I would be comfortable revealing to O what I feel are my shortcomings and handicaps.[b]	21	—	.64	—
I would be comfortable with having a close emotional tie between us.[b]	22	—	.69	—
I would be afraid of sharing my private thoughts with O.	23	.73	—	—
I would be afraid that I might not always feel close to O.	24	.35	—	—
I would be comfortable telling O what my needs are.[b]	25	—	.71	—
I would be afraid that O would be more invested in the relationship than I would be.	26	.49	—	—

(continued)

Table 2. (continued)

Stem	Item[a]	Factor 1 [GFoI]	2 [GFoIR]	3 [PRFoI]
I would feel comfortable about having open and honest communication with O.[b]	27	—	.69	—
I would sometimes feel uncomfortable listening to O's personal problems.	28	.57	—	—
I would feel at ease to completely be myself around O.[b]	29	—	.58	—
I would feel relaxed being together and talking about our personal goals.[b]	30	—	.66	—
I have shied away from opportunities to be close to someone.	31	—	—	.57
I have held back my feelings in previous relationships.	32	—	—	.70
There are people who think that I am afraid to get close to them.	33	—	—	.60
There are people who think that I am not an easy person to get to know.	34	—	—	.44
I have done things in previous relationships to keep me from developing closeness.	35	—	—	.63

Note. GFoI = general fear of intimacy, GFoIR = general fear of intimacy reversed items, PRFoI = past-relationships fear of intimacy. Correlation between factors: $r = -.75$ for GFoI and GFoIR; $r = .50$ for GFoI and PRFoI; and $r = -.25$ for GFoIR and PRFoI.
[a]Item number in the original 35-item FIS.
[b]Reverse-coded item.

Table 3. Correlation between fear of intimacy scale and experiences in close relationships–revised scale dimensions.

ECR-R dimension	FIS dimension GFoI	PRFoI	Total
Anxiety	.281***	.279***	.313***
Avoidance	.750***	.446***	.773***

Note. $N = 255$. FIS = fear of intimacy scale, GFoI = general fear of intimacy (items 1–30), PRFoI = past-relationships fear of intimacy (items 31–35), total fear of intimacy (items 1–35).
***$p < .001$: Hommel corrected.

Construct validity

The psychometric analysis of the FIS showed that the full scale and its subscales had adequate convergent validity (Table 3). Indeed, as expected, there was a strong positive correlation between the FIS and the ECR-R avoidance subscale, and a small but still significant correlation between the FIS and the ECR-R anxiety subscale.

Table 4. Invariance analysis of men and women on Italian fear of intimacy scale: multigroup hierarchical confirmatory factor analyzes goodness-of-fit indices.

Model	RMSEA	CFI	NNFI	$ML\chi^2$	*df*	$ML\chi^2_{diff}$	df_{diff}	CFI_{diff}
Model A	.067	.952	.949	2492.71***	1114	–	–	–
Model B	.068	.951	.949	2801.98***	1146	309.27***	32 [a]	.001
Model C	.068	.949	.949	2900.64***	1178	98.66***	32 [b]	.002
Model D	.068	.948	.949	2971.41***	1213	70.77***	35 [c]	.001

Note. Men, $n = 311$; women, $n = 324$. Model A: three-factor configural invariance. Model B: three-factor CI and metric invariance. Model C: three-factor CI, MI, and scalar invariance. Model D: three-factor CI, MI, SI, and invariant uniquenesses. RMSEA = root mean square error of approximation index, CFI = comparative fit index, NNFI = Non-Normed Fit Index, CI: configural invariance, MI: metric invariance, SI: scalar invariance, IU: invariant uniqueness.

[a]The reference model is Model A.

[b]The reference model is Model B.

[c]The reference model is Model C.

***$p < .001$.

MI and gender differences

To test MI of the 35-item FIS, configural, metric, scalar, and residual invariance were tested by contrasting men's ($n = 311$) and women's ($n = 324$) covariance matrices. Results indicated full MI of the scale across genders, $ML\chi^2(1222) = 2{,}996.86$, $p < .001$, RMSEA = .067, CFI = .947 (see Table 4).

The MANOVA showed a significant but weak overall effect of gender on FOI scores, *Wilks'* $\lambda = .989$, $F(2, 632) = 3.54$, $p = .030$, multivariate $\eta_p^2 = .011$. Follow-up one-way *ANOVA*s showed that gender was significantly related only to the GFoI score. No significant differences were observed between men and women on the PRFoI subscale or the total score. Men reported more FOI ($M = 72.7$, $SD = 1.1$) than women ($M = 69.1$, $SD = 1.1$) on the GFoI subscale. The *MANCOVA* that considered age as a covariate confirmed the same pattern of results.

Discussion

Results of this study showed that the Italian version of the FIS has excellent psychometric properties. Indeed, data confirmed the factorial dimensionality of the scale by indicating the presence of three correlated factors (one for reversed items) that can be considered the expression of a single dimension of FOI. Moreover, results showed that the GFoI can be distinguished from the PRFoI and can be used as a separate score. The reliability analysis showed that the two separate scores and the general score were reliable. The scale measures FOI in a gender invariant way so can be used for the investigation of gender differences. The validity analysis confirmed the specific and strong association of the FIS score with attachment-related avoidance, thus indicating that the scale has adequate validity. As expected, our data confirmed that FOI and attachment-related avoidance empirically tap a similar process. Future studies should better investigate the extent to which the two constructs can be differentiated. Finally,

our results confirmed gender differences but clarified that these differences were observed exclusively for the GFoI subscale.

Continuing from the above results, we conducted Study 2 to investigate the association between recollections of parental relationships during childhood and GFoI during adulthood.

Study 2

The aim of this study was to investigate the relation between Italian adults' recollections of parental rejection in childhood and FOI in adulthood. Moreover, given that both parental rejection and FOI have been associated with general psychological adjustment (see, e.g., Bowlby, 1973; De Goede et al., 2012; Descutner & Thelen, 1991; Furman et al., 2014; Nummenmaa et al., 2015; Sherman & Thelen, 1996; Simpson & Rholes, 2017; Smith & Mackie, 2007), the specific and innovative aim of the present study was to investigate whether the relation between recollections of parental rejection during childhood and GFoI in adulthood is observed over and above psychological maladjustment of the form described in the ARS. To do this, the validated Italian FIS was administered to a sample of 360 adults, in conjunction with the Adult Parental Acceptance–Rejection Questionnaire–Short Form (PARQ-SF; Rohner, 2005b; Rohner & Khaleque, 2012; Senese et al., 2016) and the Personality Assessment Questionnaire–Short Form (PAQ-SF; Rohner & Ali, 2016; Rohner & Khaleque, 2012).

Consistent with prior literature, we expected to find a significant positive association between adults' recollections of parental rejection during childhood and their current FOI (Hypothesis 1; see Khaleque et al., 2018; Phillips et al., 2013; Rohner et al., 2019). We also expected to find a significant positive association between psychological maladjustment and FOI (Hypothesis 2; see Khaleque et al., 2018; Phillips et al., 2013; Rohner et al., 2019). Finally, we expected psychological maladjustment to mediate the relation between recollections of parental rejection during childhood and FOI in adulthood (Hypothesis 3; see Rohner et al., 2019). We had no a priori expectations about the incremental validity of the personality dispositions in the ARS because this is the first study to consider each of the dispositions individually. In general, though, we expected that for each disposition, the more negative the disposition (e.g., the more negative the self-esteem), the greater the FOI.

Method

Participants

A convenience sample of 360 adults, 182 women (50.6%) and 178 men (49.4%; *M* age = 24.9 years, *SD* = 4.2; range = 18–35), was recruited from different cities of the Campania region of Italy. Participants were recruited by asking each contacted participant to indicate other potential participants (maximum of three) of the same age. This procedure was used to facilitate the matching procedure as a function of gender. Education levels varied from middle school to college (median = a few years of college). Men and women did not differ significantly by age, $F < 1$, or education levels, $\chi^2(5) = 2.97$, $p = .704$.

Procedure and measures

The self-report scales were administered individually and in paper and pencil form in the following order: Adult Parental Acceptance-Rejection Questionnaire, Mother (short form); Adult Parental Acceptance-Rejection Questionnaire, Father (short form); FIS; Adult PAQ-SF; and the sociodemographic questionnaire. Before administering the scales, participants were briefly instructed about the research and instruments. The study was conducted in accordance with the Helsinki declaration, and participants provided written informed consent before starting the research session.

Sociodemographics. All participants completed a sociodemographic questionnaire.

Fear of Intimacy Scale. The Italian version of the 35-item FIS was administered to each participant. Items were scored on a 5-point Likert-type scale (from 1 = "almost never true" to 5 = "almost always true"). Following from Study 1, a GFoI score was created by summing the 30 items in Part A, after reverse scoring appropriate items, with higher scores indicating higher GFoI ($\alpha = .75$).

Parental Acceptance–Rejection Questionnaire. The Italian version of the mother and father short forms of the Adult PARQ (Rohner, 2005b; Senese et al., 2016) was administered to each participant to assess recollections of parental acceptance and rejection during childhood. The two forms consist of 24 items that include identical items worded as appropriate for mothers or fathers. Both measures assess the same four scales: (1) warmth/affection; (2) hostility/aggression; (3) indifference/neglect; and (4) undifferentiated rejection. Using a 4-point Likert-type scale (from 4 = "almost always true" to 1 = "almost never true"), participants were asked to indicate how well each statement described their recollections of their parents' behavior in childhood. All scales and total scores had adequate reliability (αs > .75). Following previous research (Rohner, 2005b; Senese et al., 2016), two separate total scores were computed for maternal and paternal rejection respectively, with higher scores indicating higher rejection.

Personality Assessment Questionnaire. The short form of the Adult PAQ-SF (Rohner & Ali, 2016; Rohner & Khaleque, 2012) was administered to each participant to assess the personality dispositions described in the ARS (Rohner, 2004, 2019; Rohner & Lansford, 2017). The Adult PAQ-SF is a 42-item self-report questionnaire designed to assess individuals' perceptions of themselves with respect to seven subscales: (1) hostility/aggression (6 items), including physical, verbal, and passive aggression, and problems with the management of hostility and aggression; (2) dependence or defensive independence (6 items), the psychological need for emotional support, care, comfort, attention, nurturance, and similar responses from significant others; (3) negative self-esteem (6 items), the negative feelings of disliking or disapproving of oneself or perceiving oneself to be a worthless person or worthy of condemnation; (4) negative self-adequacy (6 items), the negative feelings of incompetence, or perceived inability to meet day-to-day demands successfully; (5) emotional unresponsiveness (6 items), the inability to express emotions freely and openly to others; (6) emotional

instability (6 items), the inability to control frequent and often unpredictable mood shifts that may swing from pole to pole; and (7) negative worldview (6 items), the feeling that life is essentially bad, insecure, threatening, unpleasant, hostile, uncertain, and/or full of many dangers. Participants indicate the extent to which they think each sentence is true of them, on a 4-point Likert-type scale (from 4 = "almost always true of me" to 1 = "almost never true of me"). For each subscale, a total score was computed by summing the relevant item scores, after reverse scoring appropriate items. CFAs with robust estimation methods carried out on each scale confirmed a unidimensional structure for each scale, RMSEAs < .08, CFIs > .98. Finally, all scales had adequate reliability (αs > .70).

Data analyses

Preliminary descriptive analyses were executed to investigate missing values and variable distributions. Univariate distributions of observed variables were examined for normality. Correlations were computed to investigate bivariate relations between variables. Hommel's (1988) correction to the *p* values of the correlation coefficients was applied to control the increase of Type I error.

Path analysis was used to investigate relations among recollections of early parental rejection, adult psychological maladjustment, and FOI. This statistical approach allowed us to test the direct effects of recollections of early parental rejection and general psychological adjustment on FOI (Hypotheses 1 and 2, respectively). It also allowed us to test the mediation hypothesis (Hypothesis 3) and to test the invariance of the predictive model across genders. In the basic model, gender and age were considered as exogenous control variables, whereas parental experiences of both maternal and paternal rejection, and the seven personality dispositions were considered as endogenous variables. The basic model was specified according to the literature reported above, as well as to our results from correlation analyses. More specifically, all variables were assumed to be related to FOI in the basic model. All nonsignificant paths were pruned, and the fit of the pruned model was tested and compared with the basic model. Finally, to test the moderation effect of gender on relations among constructs, the invariance of the predictive model across genders was examined by testing the fit of the model that assumes the invariance of all parameters across men and women, and by comparing the fit of the invariance model and the configural model. All paths were free to vary across men and women in the configural model.

Path coefficients were estimated with LISREL 8.71 software (Jöreskog & Sörbom, 2004) and the ML method. As fit indices (Cheung & Rensvold, 2002; Kline, 2011), we used the ML ($ML\chi^2$) goodness-of-fit test statistic, the RMSEA, the CFI, the normed fit index (NFI), the goodness of fit index (GFI), and the expected cross-validation index (ECVI). Moreover, the difference in χ^2 statistics ($ML\chi^2_{diff}$) and CFI values (CFI_{diff}) were used to test relative fit of nested models (Kline, 2011).

Results

Bivariate correlations showed that age was weakly and negatively associated with negative self-esteem, negative self-adequacy, and emotional unresponsiveness. Men

remembered higher maternal and paternal rejection and reported lower dependency than women. FOI was significantly higher among men than among women, and FOI was associated with maternal rejection, paternal rejection, and with all the personality dispositions assessed on the Adult PAQ. Bivariate correlations among all variables are presented in Table 5.

Results from path analyses showed a good fit for the basic model that considered all the significant correlations between variables, $ML\chi^2(10) = 16.13$; $p = .096$; RMSEA = .041 [90% CI 0; .08]; ECVI = .426; NFI = .994; CFI = .997; GFI = .993. Therefore, nonsignificant paths were pruned; the pruned model again demonstrated good fit, $ML\chi^2(20) = 30.69$; $p = .056$; RMSEA = .039 [90% CI 0; .08]; ECVI = .410; NFI = .989; CFI = .996; GFI = .987.

The more parsimonious model did not cause a significant reduction in fit, $ML\chi^2_{diff}(10) = 14.56$, $p = .149$; $CFI_{diff} = .001$. This latter model was considered the best fitting one. After controlling for age, gender, and maternal and paternal rejection, FOI was directly and significantly related only to negative self-esteem, dependency, and emotional unresponsiveness (see Figure 1). All seven personality dispositions were associated with adults' recollections of both maternal and paternal rejection. Moreover, psychological maladjustment fully mediated the relation between recollections of childhood parental rejection and FOI in adulthood. Indeed, no significant direct path was observed from paternal or maternal rejection to FOI when controlling for the seven dimensions of psychological maladjustment. The indirect effects of recollections of parental rejection on FOI were significant (standardized indirect effects [SIE] = .116, $p = .002$ and SIE = .152, $p < .001$, for paternal and maternal rejection, respectively). Moreover, all the considered variables had a significant effect on FOI, accounting for 37.4% of the variance.

Finally, the gender invariance analysis revealed a good fit for the full MI model, $ML\chi^2(80) = 90.06$, $p = .207$, RMSEA = .027 [90% CI 0; .05], CFI = .994; NFI = .963. The fit of the model with paths constrained to be equal for men and women did not significantly differ from the fit of the model with paths free to vary by gender, $ML\chi^2_{diff}(52) = 64.94$, $p = .107$; $CFI_{diff} = .005$. Therefore, no moderation effect of gender was observed.

General discussion

Study 1 adapted the Italian version of the FOI Scale (FIS) and investigated its psychometric proprieties. CFA clarified that items on the scale can be considered as an expression of three different components, two related to GFoI and one related to past relationships. At the same time, because the factors were significantly correlated, in line with previous studies (Descutner & Thelen, 1991), the data indicated the presence of a higher order factor of FOI. Furthermore, to verify whether the FIS was invariant across genders (Putnick & Bornstein, 2016; Senese, Bornstein et al., 2012; Senese, Ruotolo et al., 2012; Vandenberg & Lance, 2000), we evaluated the MI of the 35-item FIS by contrasting responses as a function of gender. Results showed that the 35-item FIS is fully invariant across genders. This is the first study to evaluate the full MI of the FIS before testing for gender differences. Men reported more GFoI than did women, but men

Table 5. Bivariate correlations between Study 2 variables ($N = 360$).

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Age											
2. Gender (man = 1, woman = 0)	.013										
3. Recalled maternal rejection	.020	.154*									
4. Recalled paternal rejection	−.020	.222***	.592***								
5. Hostility/aggression	−.069	.067	.282***	.329***							
6. Dependency	.116	−.282***	−.291***	−.237***	−.158*						
7. Negative self-esteem	−.219***	−.011	.322***	.342***	.356***	−.248***					
8. Negative self-adequacy	−.222***	−.038	.321***	.328***	.374***	−.208***	.803***				
9. Emotional unresponsiveness	−.154*	.090	.278***	.331***	.294***	−.319***	.444***	.432***			
10. Emotional instability	−.119	−.104	.208***	.222***	.470***	.042	.510***	.537***	.286***		
11. Negative worldview	−.147	.053	.318***	.352***	.413***	−.224***	.670***	.649***	.440***	.516***	
12. Fear of intimacy	−.092	.128*	.278***	.299***	.253***	−.294***	.378***	.370***	.591***	.266***	.370***

*$p < .05$: Hommel corrected.
**$p < .01$: Hommel corrected.
***$p < .001$: Hommel corrected.

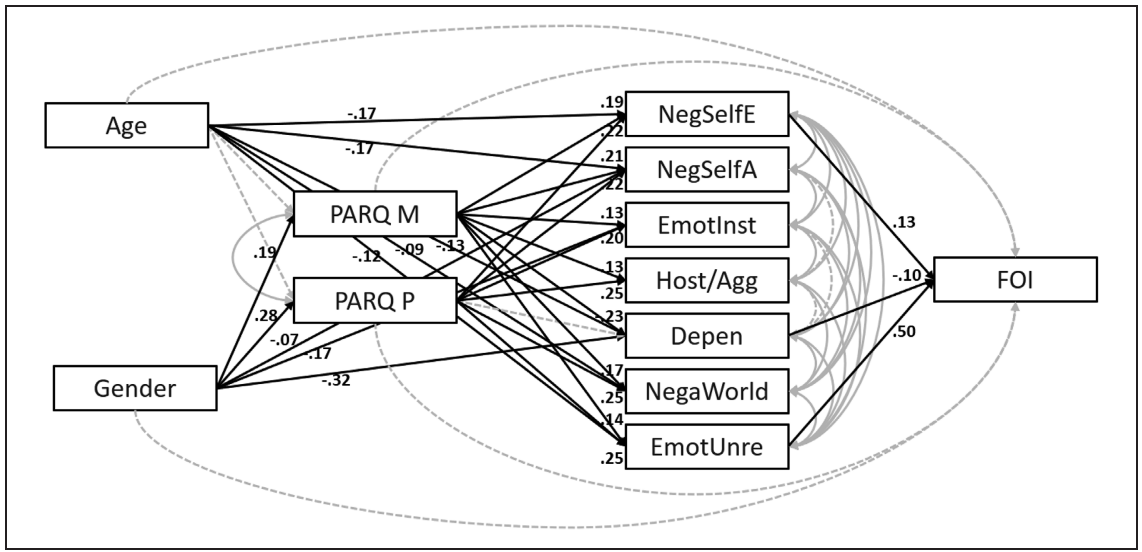

Figure 1. Path diagram for the best fitting model predicting fear of intimacy. Each arrow was associated with a standardized coefficient; dashed lines indicate nonsignificant paths; solid lines indicate significant paths ($p < .05$); gray lines indicate correlation coefficients. Gender = gender of participant (dummy code: man = 1, woman = 0), PARQ M = recollections of experienced maternal rejection in childhood, PARQ F = recollections of experienced paternal rejection in childhood, Host/Agg = hostility/aggression, Depen = dependency, NegSelfE = negative self-esteem, NegSelfA = negative self-adequacy, EmotUnre = emotional unresponsiveness, EmotInst = emotional instability, NegaWorld = negative worldview, FOI = fear of intimacy; $N = 360$, $ML\chi^2(20) = 30.69$, $p = .056$, RMSEA = .039; 90%CI [.0; .08], ECVI = .410, NFI = .989, CFI = .996, GFI = .987;$R^2_{FOI} = .374$, $R^2_{Hos/Agg} = .120$, $R^2_{Depen} = .199$, $R^2_{NegSelfE} = .167$, $R^2_{NegSelfA} = .168$, $R^2_{EmotUnre} = .133$, $R^2_{EmotInsta} = .086$, $R^2_{NegWord} = .150$.

and women did not differ significantly in their PRFoI, or on the total scale score. In summary, in line with our expectations and with previous studies (Descutner & Thelen, 1991), the psychometric analysis showed that the Italian version of the FIS is a gender invariant scale with good reliability and validity. It is worth noting here that even though the FIS has been translated into different languages and sociocultural contexts (see Rohner et al., 2019), a detailed analysis of the factorial structure of the scale is still missing. Accordingly, the results of our study represent a valid reference for authors who want to use and validate the scale in their own language or context.

In Study 2, the Italian version of the FIS along with three other self-report measures was administered to investigate the relation between recollections of parental rejection during childhood and the GFoI during adulthood and to test whether that relation is mediated by psychological maladjustment. Results showed that Italian adults' recollections of maternal and paternal rejection in childhood were associated with psychological maladjustment. When these personality dispositions were taken into account, they fully mediated the relation between remembered parental rejection and adults' FOI (see Rohner et al., 2019 for a partial mediation). Finally, this pattern was not moderated by gender.

Results of the present study are fully consistent with both IPARTheory (Rohner, 2019; Rohner & Lansford, 2017), which postulates that adults' recollections of parental acceptance and rejection during childhood are panculturally associated with adults' psychological functioning (Ibrahim et al., 2015; Khaleque, & Rohner, 2012; Rohner & Khaleque, 2008, 2010), and attachment theory (Belsky et al., 1991; Bowlby, 1973; Chisholm, 1993; Del Giudice, 2009; van IJzendoorn & Sagi, 1999), which postulates that attachment relationships early in life predict subsequent affect regulation abilities and difficulties in interpersonal functioning. Moreover, findings from our research suggest that adults' recollections of parental acceptance and rejection during childhood are only indirectly related to FOI in adulthood through psychological maladjustment, after controlling for gender and age. The components of psychological maladjustment that have a specific and independent relation to FOI in Italy are emotional unresponsiveness, negative self-esteem, and dependency. The greater the tendency of individuals to have trouble being emotionally expressive, to feel they lack value as a person, or to feel that they do not need others or their help, the greater is their FOI. This is the first study to consider the effect of these specific dimensions of psychological maladjustment that, according to IPARTheory, are the consequences of interpersonal (especially parental) rejection (Rohner, 2019; Rohner & Lansford, 2017). These results clarify the specific characteristics of individuals who express an FOI in Italy and provide useful indications for the design of interventions aimed at reducing FOI.

This study has several merits, such as (a) verifying the psychometric characteristics of the Italian FIS; (b) testing the relation between recollections of parental rejection during childhood and FOI in adulthood by controlling for age, gender, and psychological maladjustment; (c) taking into account different components of maladjustment; and (d) directly comparing the effects of maternal and paternal rejection. Nevertheless, results of the research should be interpreted in the light of its limitations. First, the research design is correlational, so causal relations among the variables cannot be tested. It is possible, for example, that retrospective reports of childhood experiences are biased by current

psychological states (see Hardt & Rutter, 2004). Future studies should replicate our findings by adopting a longitudinal design to better test temporal relations among the variables. Another limitation relates to the measurement approach, which relied on self-report measures collected from a single source. Future studies should collect reports from multiple sources. Finally, by design, the sampling procedure included only 18–35-year-old adults in community settings. It is possible that relations investigated in this study are different among younger or older individuals, or in clinical populations. Future studies should extend and replicate the model by considering a larger sample that includes both a wider age range and clinical samples.

Despite these limitations, this study confirms the conclusion that independently of gender and age, recollections of having been rejected by one's parents in childhood are directly related to psychological maladjustment and indirectly related to FOI in adulthood. FOI, in turn, decreases individuals' subsequent feelings of well-being (Nummenmaa et al., 2015; Smith & Mackie, 2007). Designing appropriate preventive interventions that increase parental sensitivity to children's needs for nurturing acceptance and taking into account adults' recollections of childhood relationships with their parents have the potential to improve functioning in adulthood during the therapeutic process.

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Open research statement

As part of IARR's encouragement of open research practices, the authors have provided the following information: This research was not pre-registered. The data used in the research are available. The data can be obtained by emailing: vincenzopaolo.senese@unicampania.it. The materials used in the research are available. The materials can be obtained by emailing: vincenzo paolo.senese@unicampania.it.

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