Perceived mother and father acceptance-rejection predict four unique aspects of child adjustment across nine countries

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Background: It is generally believed that parental rejection of children leads to child maladaptation. However, the specific effects of perceived parental acceptance-rejection on diverse domains of child adjustment and development have been incompletely documented, and whether these effects hold across diverse populations and for mothers and fathers are still open questions. **Methods:** This study assessed children's perceptions of mother and father acceptance-rejection in 1,247 families from China, Colombia, Italy, Jordan, Kenya, the Philippines, Sweden, Thailand, and the United States as antecedent predictors of later internalizing and externalizing behavior problems, school performance, prosocial behavior, and social competence. **Results:** Higher perceived parental rejection predicted increases in internalizing and externalizing behavior problems and decreases in school performance and prosocial behavior across 3 years controlling for within-wave relations, stability across waves, and parental age, education, and social desirability bias. Patterns of relations were similar across mothers and fathers and, with a few exceptions, all nine countries. **Conclusions:** Children's perceptions of maternal and paternal acceptance-rejection have small but nearly universal effects on multiple aspects of their adjustment and development regardless of the family's country of origin. **Keywords:** Parental acceptance-rejection, behavior problems, school performance, prosocial behavior, social competence, cross-cultural.

Introduction

Feeling accepted by one's parents is critical to adaptive child development (Gerhardt, 2004). However, this vital dynamic to healthy development and well-being is still not fully understood. The specific effects of acceptance-rejection on diverse domains of child adjustment and development have been incompletely documented, and whether the dynamics hold for mothers and fathers and across diverse populations are open questions, as most research has examined only maternal acceptance-rejection, ignoring the contributions of fathers (Khaleque & Rohner, 2002a) and most research derives from limited populations. Furthermore, most investigations are correlational in design which limits causal and directional inferences. Here, we present the results of a longitudinal study that investigated the impact of children's perceptions of mother and father acceptance-rejection on five diverse aspects of child adjustment (behavior problems, school performance, prosocial behavior, and social competence) in nine countries across three time points.

Parental acceptance-rejection

Parental acceptance-rejection is often described as a single continuum (Rohner, 2004). When children feel rejected by their parents, a fundamental human need is not being met (Rohner, 2004), the parent–child dyad is at risk for a poor attachment relationship (Hughes, Blom, Rohner, & Britner, 2005), and the child may be more likely to experience psychosocial maladaptation (Groh, Roisman, van IJzendoorn, Bakermans-Kranenburg, & Fearon, 2012; Khaleque & Rohner, 2002a, 2012).

Universal versus community-specific relations

Most research on parental acceptance-rejection has focused on Western nations or studies of single locales (Khaleque & Rohner, 2012; Rohner & Britner, 2002). However, theory asserts, and some reviews and meta-analyses have begun to indicate, that

effects of perceived parental acceptance-rejection are pan cultural (Khaleque & Rohner, 2002a, 2012; Rohner & Britner, 2002). Including samples from multiple countries in the same study permits a broader test of relations between acceptance-rejection and child adjustment. Finding that associations between acceptance-rejection and child adjustment are invariant across countries would support the universal need for children to feel accepted by their parents in a way that is more generalizable to the world's population than studies from single locales.

Fathers and mothers

Likewise, studying father acceptance-rejection as well as mother acceptance-rejection is critical to understanding the generalizability of relations between perceived acceptance-rejection and child adjustment. The literature is contradictory about whether both mother *and/or* father acceptance-rejection are predictive of children's adjustment (Chen, Liu, & Li, 2000; Chung, Zappulla, & Kaspar, 2008; DuBois, Eitel, & Felner, 1994; Forehand & Nousiainen, 1993; Khaleque & Rohner, 2012; Khan, Haynes, Armstrong, & Rohner, 2010; Kim & Rohner, 2002; Lila, García, & Gracia, 2007; Veneziano, 2003). Previous studies have generally employed children age 12 and older, narrow samples from a single community in a single country, and varying outcomes of school grades, social competence, and conduct problems. Consequently, it is difficult to determine why mother and father acceptance-rejection are only sometimes differentially predictive of child adjustment. We therefore included mothers and fathers in all samples across multiple countries and compared relations across parents. This design feature helps to determine the relative robustness of maternal and paternal acceptance-rejection on child adjustment, or whether mothers or fathers exert differential influences on different domains of child adjustment.

Relations between parental acceptance-rejection and child adjustment

Much of the literature on parental acceptance-rejection has focused on individual effects on children. Research is mixed, however, about which indicators of child adjustment are consistently related to perceived parental rejection. Parental rejection has been linked to a host of negative outcomes in children, such as behavior problems and depression (Bradford et al., 2003; Khaleque & Rohner, 2002a, 2012; Rohner & Britner, 2002; Rohner, Khaleque, & Cournoyer, 2003). Positive outcomes associated with acceptance, such as social competence and ego resilience (Ip, Cheung, & McBride-Chang, 2008; Kim, Han, & McCubbin, 2007; Swanson, Valiente, Lemery-Chalfant, & O'Brien, 2011), have also been noted, but there is less systematic research linking

parental acceptance to adaptive child adjustment. This study investigates five specific aspects of child adjustment: two negative (internalizing and externalizing behavior problems) and three positive (school achievement, prosocial behavior, and social competence).

Few studies of relations between parental acceptance-rejection and child adjustment have tested multiple outcomes simultaneously. Because the five aspects of child adjustment we studied share variance (e.g. Masten et al., 2005; Wentzel, 1991, 1993), it is possible that acceptance-rejection is really only related to one or two key aspects of child adjustment (e.g. behavior problems) which overlap with other aspects (e.g. school performance and social competence). Testing multiple indicators of adjustment (internalizing behavior, externalizing behavior, school achievement, prosocial behavior, and social competence) in a single developmental model, as we do here, helps to determine whether parental acceptance-rejection is uniquely associated with all child outcomes, or whether the effects are driven by a smaller number of key aspects of child adjustment.

This study

This study advances the existing literature about the effects of parental acceptance-rejection on child adjustment in several ways. First, we include five aspects of child adjustment (two negative and three positive) in the same analytical model, which allows shared variance to be accounted for statistically and unique relations with parental acceptance-rejection to be assessed. Second, we collected data in nine Western and non-Western countries, permitting direct comparison of relations between acceptance-rejection and child adjustment in and across countries. Third, we sought children's perceptions of mothers and fathers, and mother and father effects were separately determined and compared. Fourth, we collected data across three time points, allowing for the investigation of stability across time, within-time correlations, and relations among acceptance-rejection and child adjustment controlling for stability as well as within-wave relations in all constructs. Finally, to rule out potential confounds, we controlled parental age and education (a proxy for socioeconomic status), two demographic characteristics previously linked to variation in acceptance-rejection (Erkan & Toran, 2010), and social desirability bias in parental reports. We expected that: (a) mother and father acceptance-rejection would be related to children's internalizing and externalizing behaviors, school performance, prosocial behavior, and social competence, even when relations among the child outcomes and stability across time were controlled because when a child's fundamental need to be loved and accepted is not met, his or her adjustment in many aspects of life likely suffers (Rohner, 2004), (b) patterns of relations between parental acceptance-rejection and child

adjustment would be universal (i.e. largely similar) across countries because there is theoretical and emerging empirical evidence that feeling accepted by one's parents is a fundamental human need regardless of community, and (c) patterns of relations between mother acceptance-rejection and child adjustment, and father acceptance-rejection and child adjustment, would be similar because mothers and fathers are both influential in their children's development.

Method
Sample

Altogether, 1,247 families including 1,247 mothers and 1,247 children and 1,046 fathers from nine countries provided data over 3 years in three waves. Children (50.8% female) averaged 8.25 years (*SD* = .63; range = 7–10) in wave 1, 9.31 years (*SD* = .73; range = 7–12) in wave 2, and 10.35 years (*SD* = .72; range = 8–13) in wave 3. Families were drawn from Jinan, China (*n*s = 118 mothers and 118 fathers), Medellín, Colombia (*n*s = 102 mothers and 100 fathers), Naples and Rome, Italy (*n*s = 203 mothers and 163 fathers), Zarqa, Jordan (*n*s = 114 mothers and 113 fathers), Kisumu, Kenya (*n*s = 98 mothers and 97 fathers), Manila, the Philippines (*n*s = 106 mothers and 85 fathers), Trollhättan/Vänersborg, Sweden (*n*s = 100 mothers and 77 fathers), Chiang Mai, Thailand (*n*s = 117 mothers and 97 fathers), and Durham, North Carolina, United States (*n*s = 289 mothers and 196 fathers).

This sample of countries was selected because they vary on a number of important dimensions. For example, these countries rank between 4th and 128th out of 169 countries on the Human Development Index (UNDP, 2010), a composite indicator of a country's status with respect to health, education, and income. To provide a sense of what this range entails, in the Philippines, 22% of the population falls below the international poverty line of less than USD $1.25 per day (UNICEF, 2010), whereas only negligible proportions of the population fall below this poverty line in Italy, Sweden, or the United States. The participating countries also varied widely on psychological constructs such as individualism-collectivism. Using Hofstede's (2001) rankings, participating countries ranged from the United States and Sweden, with the highest individualism scores in the world, to China, Colombia, and Thailand, countries that are among the most collectivist. More germane to parenting, this range of countries has been shown to display divergent parenting characteristics, such as parenting attributions and attitudes (Bornstein, Putnick, & Lansford, 2011). Ultimately, this diversity of sociodemographic and psychological characteristics provided an opportunity to examine the effects of perceived parenting on child adjustment in a sample that is more generalizable to the world's population and provided comparison groups that varied across multiple economic, social, and cultural dimensions.

Mothers averaged 37.03 years (*SD* = 6.46) and fathers 40.15 years of age (*SD* = 6.68) in wave 1. Mothers completed 12.54 years (*SD* = 4.18) and fathers completed 12.69 years of education (*SD* = 4.16) on average. Mothers reported that 81.63% were married, 9.40% were unmarried and cohabitating, and 8.97% were unpartnered.

Procedures

Families were recruited from schools that served socioeconomically diverse populations in each participating community. Both parents provided informed consent. At wave 1, mothers reported on demographic information about the family. At waves 1, 2, and 3, children completed questionnaires about

their perceptions of acceptance and rejection from their mothers and fathers. At waves 2 and 3, mothers and fathers completed questionnaires about their child's behavior problems, school performance, and social competence, and children completed a questionnaire about their prosocial behavior. Mothers and fathers also completed a questionnaire assessing social desirability bias. Internal consistencies (α) of scales are presented in Table 1. Forward- and back-translation was used to ensure the linguistic and conceptual equivalence of measures across languages (Peña, 2007).

Measures

Parental acceptance-rejection. The child version of the Parental Acceptance-Rejection/Control Questionnaire-Short Form (PARQ/Control-SF; Rohner, 2005) was used to measure the frequency of perceived mother and father parenting behaviors. Children rated items for each parent on a modified scale: 1 = *never or almost never*, 2 = *once a month*, 3 = *once a week*, or 4 = *every day*. We used the total acceptance-rejection scale, which is computed as the sum of eight warmth-affection (reversed), six hostility-aggression, four rejection, and six neglect-indifference items (high score = more rejection). A score of 24 indicates highest acceptance and lowest rejection, and a score of 96 indicates highest rejection and lowest acceptance. In a meta-analysis of the reliability of the PARQ using data from 51 studies in eight countries, Khaleque and Rohner (2002b) concluded that internal consistency (α) reliabilities exceeded .70 in all groups, effect sizes were homogenous across groups, and convergent and discriminant validity were demonstrated (Rohner, 2005).

Internalizing and externalizing behavior. Mothers and fathers completed problem items on the widely used and validated Child Behavior Checklist (CBCL; Achenbach, 1991). For this study, we used raw scores of the 33-item externalizing scale (e.g. 'My child gets in many fights') and the 31-item internalizing scale (e.g. 'My child is too fearful or anxious'). Mothers and fathers indicated whether each behavior was 0 = *not true*, 1 = *somewhat or sometimes true*, or 2 = *very true or often true*. Items were summed to create an internalizing scale and an externalizing scale.

School performance. Mothers and fathers were asked to rate their child's school performance in four areas (reading, math, social studies, and science). These four areas were used because they are common to curricula in every country. The questions were adapted from the performance in academic subjects section of the Child Behavior Checklist (CBCL) which has demonstrated criterion validity (Achenbach, 1991). Parents rated whether children were 1 = *failing*, 2 = *below average*, 3 = *average*, or 4 = *above average* in each area. A single scale was computed as the average of the four items.

Prosocial behavior. Children completed a 13-item scale composed of items such as 'I try to help others,' which was adapted from Pastorelli, Barbaranelli, Cermak, Rozsa, and Caprara (1997). Items were rated as 1 = *never*, 2 = *sometimes*, or 3 = *often*. A single scale was computed as the average of the nine prosocial behavior items (the remaining four items were distracters). The child self-report version of the prosocial behavior scale is significantly related to peer- and mother-rated prosocial behavior (Pastorelli et al., 1997), indicating reporter validity.

Social competence. Mothers and fathers completed a seven-item social competence scale adapted from Pettit, Harrist, Bates, and Dodge (1991) indicating how socially skilled the child was in several kinds of interpersonal interactions (e.g. understanding others' feelings, generating good solutions to

Table 1 Descriptive statistics and internal consistency of mother and father sociodemographics, acceptance-rejection, and child adjustment

	Mothers			Fathers		
	α	M	SD	α	M	SD
Wave 1						
Parental age (years)	–	37.03	6.46	–	40.18	6.68
Parental education (years)	–	12.54	4.18	–	12.69	4.14
Acceptance-Rejection (24–96)[a]	.84	35.98	9.37	.87	35.81	9.96
Wave 2						
Acceptance-Rejection (24–96)[a]	.86	33.48	8.91	.88	34.00	9.25
Internalizing (0–62)	.87	8.99	7.21	.86	8.13	6.48
Externalizing (0–66)	.87	9.78	7.48	.84	9.24	6.42
School Performance (1–4)	.82	3.37	.50	.83	3.36	.50
Prosocial Behavior (1–3)	.75	2.45	.34	.75	2.44	.33
Social Competence (1–5)	.89	3.67	.68	.88	3.61	.62
Wave 3						
Acceptance-Rejection (24–96)[a]	.88	32.97	8.83	.89	33.52	9.15
Internalizing (0–62)	.87	8.80	7.00	.85	7.85	6.09
Externalizing (0–66)	.88	9.27	7.24	.86	8.82	6.60
School Performance (1–4)	.82	3.36	.50	.84	3.39	.51
Prosocial Behavior (1–3)	.77	2.48	.35	.77	2.47	.35
Social Competence (1–5)	.89	3.71	.68	.90	3.65	.66

Numbers in parentheses are potential ranges for the scales. –, not applicable.
[a]A score of 24 indicates highest acceptance and lowest rejection, and a score of 96 indicates highest rejection and lowest acceptance.

interpersonal problems). Items were rated on a 5-point scale from 1 = *very poor* to 5 = *very good*. A single scale was computed as the average of the seven items.

Social desirability. As a control variable when evaluating parent-report measures, mothers and fathers completed the 13-item Social Desirability Scale-Short Form (SDS-SF; Reynolds, 1982) to assess social desirability bias. Statements such as 'I'm always willing to admit when I make a mistake.' were rated as *True* or *False*. α of the SDS-SF is .76, and the correlation with the full-length SDS .93 (Reynolds, 1982). The SDS-SF has demonstrated concurrent validity across various countries (Bornstein et al., 2015).

Results
Preliminary analyses and analytic plan

Parents' socially desirable responding was correlated with parent reports of child internalizing, rs(2,072–2,200) = −.19 to −.25, ps < .001, externalizing, rs (2,072–2,200) = −.15 to −.22, ps < .001, and social competence, rs(2,067–2,195) = .12, ps < .001. To remove the variance associated with socially desirable responding, each of these variables was residualized for parents' socially desirable responding prior to analyses.

In all models, full information maximum likelihood (FIML; Arbuckle, 1996) within M*plus* 5.21 (Muthén & Muthén, 2009) was used to account for missing data (due to attrition over time, 3.64% of the data points were missing). A model was considered to have good fit if the χ^2 test was nonsignificant (p > .05), the CFI and TLI ≥ .95, the RMSEA ≤ .06, and the SRMR ≤ .08 (Hu & Bentler, 1999), but we gave greater weight to the incremental/approximate fit indices than to the significance of the χ^2 because the χ^2 value is known

to be sensitive to sample size (Cheung & Rensvold, 2002).

An a priori developmental model was tested for fit. If the fit of the a priori model was not acceptable, we examined model modification indices and iteratively added the largest theoretically plausible path, reevaluated the fit of the revised model, and added the next largest theoretically plausible path until the model fit was acceptable (Sörbom, 1989). Next, a covariate controlled model, removing variance associated with parental age and education, was evaluated using the same procedures and criteria.

To test whether our models fit well for mothers and fathers, we fit our a priori and covariate controlled model on mothers and fathers combined to arrive at a common structure. Mothers and fathers were nested within families and their scores were highly correlated (see Table S1 available online). We accounted for this within-family variance by including family as a sampling cluster and using maximum likelihood estimates that are robust to nonindependence of observations (MLR estimation in M*plus* and the robust Satorra-Bentler χ^2).

Multiple-group models were then tested across the nine countries and across mothers and fathers. A configural invariance model in which no parameter estimates were constrained to be equal was compared with a model in which all structural paths (but not within-time covariances) were constrained to be equal across groups. Following Cheung and Rensvold (2002), if the differences in χ^2 values for the two models were nonsignificant, and the change in CFI ≤ .01, we could be reasonably certain that the model fit well across groups. As in the a priori model, if the difference in fit between the constrained and uncon-

strained multiple-group models did not meet the criteria above, we examined model modification indices and iteratively released paths. This procedure identifies paths that are community-specific rather than universal.

Descriptive statistics and correlations

Table 1 displays descriptive statistics separately for mothers and fathers. The average level of acceptance-rejection was low across countries (as indicated by levels of rejection in the bottom third of the scale range), but there was a considerable amount of variability within and across countries. Child adjustment varied widely, but mean levels indicated that the sample was normative on average.

Within waves there were small to medium correlations among the five indicators of child adjustment except for internalizing and externalizing behaviors, which had large, positive intercorrelations (Table S1).

Predictive models of acceptance-rejection with child adjustment

We fit a developmental model with a stability coefficient from wave 1 to wave 2 for acceptance-rejection, stabilities from wave 2 to wave 3 for all measures, paths from acceptance-rejection in wave 1 to all other measures in wave 2 and acceptance-rejection in wave 2 to all measures in wave 3, and covariances among all measures within waves. Although we acknowledge the bidirectional nature of parent–child relationships (e.g. Keijsers, Loeber, Branje, & Meeus, 2011), we were primarily interested in the effects of perceived acceptance-rejection on child functioning. Hence, this a priori model omitted predictive relations between child functioning and later perceived acceptance-rejection, but included within-wave (concurrent) relations between child functioning and perceived acceptance-rejection. The a priori model did not have good fit, Satorra-Bentler (S-B) $\chi^2(31) = 295.53$, $p < .001$, CFI = .97, TLI = .91, RMSEA = .06, 90%CI = .06–.07, SRMR = .04, as indicated by the significant χ^2 and TLI < .95. We then modified the a priori model by incrementally adding eight additional theoretically plausible structural paths (noted in Figure 1 and Table S2). This final model, presented in Figure 1 (unstandardized coefficients in Table S2), was a good fit to the data, S-B $\chi^2(23) = 76.05$, $p < .001$, CFI = .99, TLI = .98, RMSEA = .03, 90%CI = .02–.04, SRMR = .02. In the final developmental model, all measures were highly stable across time. From wave 1 to wave 2, controlling for concurrent relations at wave 2 and stability of acceptance-rejection from wave 1 to wave 2, higher rejection at wave 1 was associated with higher internalizing and externalizing and lower school performance, prosocial behavior, and social competence at wave 2. From wave 2 to wave 3, controlling for concurrent relations at wave 2 and wave 3, and

stabilities from wave 2 to wave 3 in all constructs, higher wave 2 parental rejection was associated with increases in internalizing and externalizing problems and with decreases in school performance and prosocial behavior at wave 3, but the effect sizes were small (rightmost coefficients in Figure 1).

Covariate controlled final model of acceptance-rejection with child adjustment

To determine whether the relations in Figure 1 were driven by wave 1 parental education and age, we added parental education and age as observed variables to the model with direct paths to all variables in the model and covariance between them. The covariate controlled model fit the data, S-B $\chi^2(23) = 76.71$, $p < .001$, CFI = .99, TLI = .97, RMSEA = .03, 90%CI = .02–.04, SRMR = .02. All structural paths depicted in Figure 1 were still significant at the .05 level when controlling for parental education and age (and the path from wave 2 parental acceptance-rejection to wave 3 social competence improved from marginally significant in the full model, $\beta = -.038$, $SE = .019$, $p = .053$, to significant in the covariate controlled model, $\beta = -.039$, $SE = .019$, $p = .046$).

Multiple-group models of acceptance-rejection with child adjustment by country

Next, we examined whether the final model in Figure 1 fit for families across nine countries. A configural invariance model with no constraints (which had good fit, S-B $\chi^2(207) = 309.19$, $p < .001$, CFI = .99, TLI = .95, RMSEA = .04, 90%CI = .03–.05, SRMR = .04) was compared to a model with equality constraints across countries on the structural paths (within-wave covariances were allowed to vary across countries). The difference in model fit, ΔS-B $\chi^2(200) = 443.91$, $p < .001$, ΔCFI = .034, indicated that all structural paths were not invariant across nine countries. To achieve an acceptable difference in model fit, 17 paths were incrementally released. Change in model fit for the revised model was ΔS-B $\chi^2(183) = 215.10$, $p = .052$, ΔCFI = .004. To put these modifications in context, there were 225 paths in the multiple-group model that could have been released, but only 17 (7.5%) had to be released to achieve a nonsignificant difference in model fit. Overall, too, these modifications were minor (unstandardized coefficients are presented by country in Table S3); 11 of the 17 modifications produced a difference of size, not sign or significance. Only six released paths involved a relation between acceptance-rejection and child adjustment: (a) the relation between wave 1 acceptance-rejection and wave 2 school performance was larger in the Philippines and the United States, (b) the relation between wave 1 acceptance-rejection and wave 2 prosocial behavior was nonsignificant in Kenya and larger in the United States, (c) the relation between
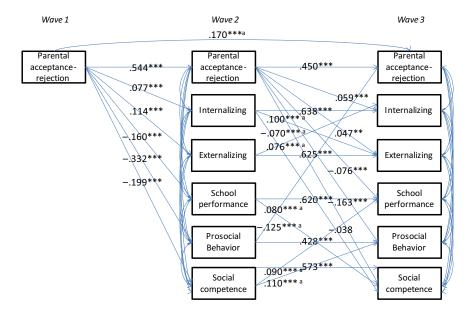
Figure 1 Final model of relations of perceived acceptance-rejection from mothers and fathers with child adjustment across nine countries *Note*. Standardized coefficients are presented. For ease of interpretation, within-wave covariances are not depicted on the Figure. Covariances among wave 2 variables ranged from $|r| = .04$ to .60, $p = .04$ to <.001, and wave 3 variables ranged from $|r| = .00$ to .53, $p = .84$ to <.001. [a]Path was added to the a priori model. **$p < .01$. ***$p < .001$

wave 1 acceptance-rejection and wave 2 externalizing was nonsignificant in China, and (d) the relation between wave 2 acceptance-rejection and wave 3 prosocial behavior was nonsignificant in the Philippines. Ten modifications were for stabilities across time, six of which involved releasing paths for Kenya from wave 2 to wave 3.

Multiple-group model of acceptance-rejection with child adjustment by parent

Finally, we examined whether the final model in Figure 1 fit for mothers and fathers. A configural invariance model with no constraints (which had good fit, S-B $\chi^2(46) = 118.30$, $p < .001$, CFI = .99, TLI = .97, RMSEA = .04, 90%CI = .03–.05, SRMR = .02) was compared to a model with equality constraints between mothers and fathers on all structural paths. The difference in model fit, ΔS-B $\chi^2(25) = 19.29$, $p = .783$, ΔCFI = .000, indicated that constraining the structural paths to be equal for mothers and fathers did not harm the model fit. Therefore, we conclude that children's perceived acceptance-rejection from mothers and fathers has similar effects on their adjustment.

Discussion

Overall, our findings suggest that mother and father acceptance-rejection have significant effects on five separate aspects of child adjustment in nine countries. Notably, after controlling for stability in acceptance-rejection and each indicator of child adjustment from wave 2 to wave 3, as well as relations among all variables within each wave, changes in parental acceptance-rejection predicted unique changes in children's internalizing and

externalizing behaviors, school performance, and prosocial behaviors over time. Moreover, the patterns of relations were similar across mothers and fathers and (with a few exceptions) across nine countries. This study provides a robust and conservative test of the general proposition that children's perceptions of their parents' acceptance-rejection are systematically and universally related to multiple aspects of children's own adjustment. In the balance of this Discussion, we put these findings in the context of universality across nations and parents.

Invariance across countries

Overall, the model depicted in Figure 1 was similar in nine different countries, supporting a universal view of the effects of children's perceived acceptance-rejection by parents on their own adjustment. Only 7.5% of paths had to be released for the change in model fit to be nonsignificant. Furthermore, of the paths that were released, most represented a difference of magnitude (e.g. smaller or larger, but in the same direction and significance), rather than a change in statistical decision (e.g. to nonsignificance or in a different direction). The model held with no modifications for two countries, and only minor modifications in four other countries (e.g. fewer than 5% of paths modified for each model). Model modifications indicated that acceptance-rejection was not predictive of school performance in Kenya or externalizing behavior in China, and, when controlling for stability over time and within-wave relations, acceptance-rejection was not related to changes in prosocial behavior in the Philippines. Therefore, in these three countries, acceptance-rejection was associated

with four rather than five unique aspects of child adjustment. Other model modifications for paths between acceptance-rejection and adjustment reflected a difference of effect size.

At most, three paths were released for any single country except Kenya, which required releasing seven paths. Six of the seven released paths for Kenya were stabilities from wave 2 to wave 3. Why were parents and children in Kenya less stable than in other countries between waves 2 and 3? One explanation has to do with the timing of the data collection. Wave 1 data were collected in early 2008, just 4 months after an outbreak of extreme violence following a disputed Kenyan presidential election. Using the same Kenyan sample presented in this study, Skinner, Oburu, Lansford, and Bacchini (2014) reported that 80% of mothers experienced and 97% of children witnessed some form of post-election violence (e.g. hearing gunshots, seeing dead bodies, being threatened, etc.). Furthermore, exposure to postelection violence was associated with concurrent child externalizing behavior. Experiencing postelection violence in Kenya may have disrupted the normal pattern of stability across time for children's adjustment and perceptions of parental acceptance-rejection.

Invariance across mothers and fathers

Collapsing across the nine countries, the model depicted in Figure 1 fit well for mothers and fathers separately and combined. This finding is particularly meaningful because fathers are still too often neglected in parenting research. Showing that mother and father acceptance-rejection have roughly equivalent effects on child adjustment in a large sample across nine countries demonstrates the importance of fathers to child development. Some researchers have found that one or the other parent's acceptance-rejection was more predictive of child adjustment, but these studies generally included older children than those in our sample (Chen et al., 2000; DuBois et al., 1994; Forehand & Nousiainen, 1993; Khaleque & Rohner, 2012; Khan et al., 2010; Veneziano, 2003). One possible reason we did not find differential predictability of perceived maternal and paternal acceptance-rejection is that our sample of children (8–10 years of age on average) may still not fully differentiate their mothers' and fathers' parenting. As seen in online Table S1, children's perceptions of mother and father acceptance-rejection were very highly correlated (rs = .74–.80). Putnick et al. (2012) found that mother and father reports of their own acceptance-rejection of their children in nine countries were only moderately correlated. Perhaps, as children age, they gain more nuanced and differentiated perceptions of each parent and therefore begin to respond differentially to each parent's behavior. Future research should investigate whether perceived maternal and paternal

acceptance-rejection by older children differentially predict child adjustment into adolescence.

Strengths and limitations

This study has several notable strengths. Among them are the large sample size, three-wave longitudinal design, representation of families in nine countries, involvement and comparison of mothers and fathers, inclusion of multiple positive and negative aspects of child adjustment, and application of statistical controls for parental age, education, and social desirability bias. Still, three specific limitations should be acknowledged. First, we did not have representative samples from each country, but we believe that our samples are representative of school-based families in their respective communities. Second, we did not have a parent report of prosocial behavior. The child report of prosocial behavior shares source variance with the child report of parental acceptance-rejection, which may be why prosocial behavior had the strongest relations with acceptance-rejection. Third, the effects of perceived acceptance-rejection on children were small. Still, small effects are known to have large repercussions (Prentice & Miller, 1992).

Clinical applications

The parent- and country-common effects of perceived parental acceptance on unique changes in children's internalizing and externalizing behaviors, school performance, and prosocial behavior over time may have important clinical applications. Results of parenting interventions (usually with mothers) in the United States and Europe have demonstrated that improving parenting behaviors can have positive effects on later child adjustment (Guttentag et al., 2014; Hanisch, Hautmann, Plück, Eichelberger, & Döpfner, 2014; Landry, Smith, Swank, & Guttentag, 2008; Watson et al., 2014). The results of this study suggest that parenting interventions with mothers and fathers may have similar effects on child adjustment in Western and non-Western countries. More research is needed to determine whether interventions to increase perceived parental acceptance have similar effects on child adjustment across mothers and fathers, across countries, and in clinical samples.

Summary and conclusions

This study provided a rigorous test of the effects of mother and father acceptance-rejection on a range of child adjustment indicators in nine countries across three time points in 8–10-year olds. Perceived mother and father acceptance-rejection affected later positive and negative child adjustment, independent of concurrent relations, stability across time, and parental age and education. The effects of perceived

acceptance-rejection in this age group appear to be universal across parents as well as largely universal across school-aged children in nine diverse countries. Given the overreliance of the existing literature on US American and northern European samples, or small samples from single locales, the unique contribution of this study was to replicate a complex model of the effects of maternal and paternal acceptance-rejection on multiple independent aspects of child functioning in nine countries, finding nearly universal patterns. This study also confirmed that perceived parental acceptance-rejection has effects on multiple, independent aspects of child adjustment. Parental training in warmth and acceptance toward children may promote child adjustment in at least four important areas of internalizing and externalizing behavior problems, school performance, and prosocial behavior regardless of country context.

Supporting information

Additional Supporting Information may be found in the online version of this article:

Table S1. Correlations among mother and father study variables.
Table S2. Unstandardized path coefficients, standard errors, and critical ratios (B/SE).
Table S3. Unstandardized path coefficients, standard errors, and critical ratios (B/SE) for the configural invariance model by country.

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Key points

- Children's perceptions of their mothers' and fathers' acceptance-rejection relate to changes in at least four independent aspects of child adjustment across time.
- Relations between acceptance-rejection and child adjustment were largely similar across nine countries, indicating that the benefits of children's feeling accepted by parents are nearly universal regardless of country context.
- Relations between acceptance-rejection and child adjustment were similar for mothers and fathers, indicating that both parents have similar effects on children.
- Parental training in acceptance of children may have positive effects on children's adjustment.

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