The Reciprocal Relationship Between Relative Deprivation and Psychological Adaptation in Children from Single-Parent Families: A Longitudinal Study

Authors: Xiong Meng, Ruojin Liu, Ye Yiduo, Ye Yiduo

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Abstract

Based on classical relative deprivation theory and developmental contextualism, this study employed a longitudinal design to examine the characteristics and cyclical relationship between relative deprivation and psychological adaptation among 273 children from single-parent families in a region of Hubei Province across three consecutive waves of assessment. The results revealed: (1) Boys from single-parent families exhibited higher levels of depression and loneliness than girls; children from impoverished single-parent families demonstrated higher levels of relative deprivation, depression, and loneliness, and lower levels of self-esteem compared to their counterparts from non-impoverished single-parent families; (2) After controlling for gender, school stage, and family economic status, relative deprivation at T1 significantly negatively predicted psychological adaptation at T2 at the within-person level, which in turn significantly negatively predicted relative deprivation at T3, while relative deprivation at T2 also significantly negatively predicted psychological adaptation at T3; (3) The cyclical relationship between relative deprivation and psychological adaptation varied significantly across different family economic statuses, with the effect of psychological adaptation on relative deprivation being more pronounced among children from impoverished single-parent families than among those from non-impoverished families. These findings indicate that a cyclical relationship exists between relative deprivation and psychological adaptation among children from single-parent families, wherein relative deprivation at a prior time point (Tn) leads to maladaptive psychological outcomes at the subsequent time point (Tn+1), which subsequently influences relative deprivation at the following time point (Tn+2). The results hold important implications for interventions aimed at promoting psychological adaptation among children from single-parent families.

Full Text

Reciprocal Relations between Relative Deprivation and Psychological Adjustment among Single-Parent Children in China: A Longitudinal Study

XIONG Meng[1],[2], LIU Ruojin[1], YE Yiduo[3]

[1] Department of Psychology, School of Education and Sport Sciences, Yangtze University, Jingzhou 434023, China
[2] Department of Psychology, The University of Edinburgh, Edinburgh EH89JZ, UK
[3] School of Psychology, Fujian Normal University, Fuzhou 350117, China

Abstract

This study examined the reciprocal relations between relative deprivation and psychological adjustment among single-parent children in China. Based on classic relative deprivation theory and developmental contextualism, we conducted a three-wave longitudinal study with 273 single-parent children from Hubei Province. Results showed that: (1) Boys reported higher levels of depression and loneliness than girls; children from impoverished single-parent families exhibited higher relative deprivation, depression, and loneliness, and lower self-esteem compared to those from non-impoverished families; (2) After controlling for gender, school level, and family economic status, relative deprivation at T1 negatively predicted psychological adjustment at T2, which in turn negatively predicted relative deprivation at T3, while relative deprivation at T2 also negatively predicted psychological adjustment at T3; (3) The reciprocal relations differed significantly by family economic status, with psychological adjustment having a stronger effect on relative deprivation among impoverished single-parent children than among their non-impoverished counterparts. These findings reveal a cyclical relationship between relative deprivation and psychological adjustment, wherein earlier relative deprivation leads to later maladjustment, which subsequently reinforces relative deprivation. The results carry important implications for interventions aimed at promoting psychological adjustment among single-parent children.

Keywords: relative deprivation; psychological adjustment; single-parent children; reciprocal relations

1 Introduction

Since the advent of industrial civilization, evolving marital attitudes and increased population mobility have contributed to the growing prevalence of single-parent families. Recent statistics from the Ministry of Civil Affairs indicate that China' s divorce rate rose continuously from 1.37‰ in 2005 to 3.2‰ in 2017, leading to a sharp increase in the number of children living in single-parent

households. Single-parent children are defined as individuals under 18 years of age who lack independent living capabilities and are raised by only one parent due to divorce, death, or other circumstances. The absence of one parent creates significant challenges for children' s psychological development and social adaptation.

Research consistently demonstrates that children from single-parent families exhibit lower levels of psychosocial adjustment compared to their peers from intact families, manifesting more problems in depression, self-esteem, social anxiety, and antisocial behavior. Among the various risk factors affecting psychological adjustment, relative deprivation has garnered increasing attention. Single-parent children, who often lack emotional support and experience relatively low quality of life, are prone to developing subjective feelings of relative deprivation when comparing themselves to children from intact families. This growing sense of deprivation undermines healthy personality development and psychological adaptation.

Relative deprivation refers to a subjective cognitive and emotional experience in which individuals or groups perceive themselves as disadvantaged relative to a reference target, resulting in feelings of anger and dissatisfaction. The construct encompasses four dimensions: individual-cognitive relative deprivation (C-IRD), individual-emotional relative deprivation (E-IRD), group-cognitive relative deprivation (C-GRD), and group-emotional relative deprivation (E-GRD). While most research has focused on adults, emerging evidence suggests that relative deprivation plays an important role during childhood and adolescence. Studies have found that single-parent children experience higher levels of relative deprivation than children from intact or reconstituted families. However, existing research has primarily relied on cross-sectional designs, leaving the longitudinal dynamics and causal relationships between relative deprivation and psychological adjustment underexplored.

Psychological adjustment refers to individuals' active responses to environmental changes that enable their psychological functioning and behavioral patterns to align with environmental demands and personal development, achieving a state of equilibrium between the self and the environment. Among children and adolescents, researchers typically assess psychological adjustment through indicators such as depression, loneliness, social anxiety, and self-esteem. Meta-analytic evidence confirms that relative deprivation significantly correlates with these internal adjustment indicators, though the causal direction remains unclear.

Two competing perspectives exist regarding this relationship. Classic relative deprivation theory posits that comparison with others leads disadvantaged group members to experience deprivation, which damages psychosocial adaptation. Numerous studies support this view, demonstrating that relative deprivation predicts psychological adjustment outcomes, with higher relative deprivation associated with elevated depression, loneliness, and social anxiety, and lower self-esteem. Meta-analytic results indicate an average effect size of 0.17 for

relative deprivation' s prediction of anxiety and depression.

Conversely, an alternative perspective suggests that psychological maladjustment may lead to increased relative deprivation. Two mechanisms may account for this pathway. First, maladjusted individuals may develop cognitive biases that distort social comparisons, creating a sense of internal imbalance. Second, psychological maladjustment may increase vulnerability to relative deprivation through negative self-concepts, heightened negative affect, and internal attributions for failure.

Most existing research on these relationships has been cross-sectional, limiting understanding of dynamic temporal processes. Developmental contextualism emphasizes that development involves dynamic interactions between individuals and their contexts across time, forming circular effect modes where earlier responses to contextual stimuli influence later development. This perspective suggests that relative deprivation and psychological adjustment may influence each other reciprocally over time, creating a cyclical pattern. While some longitudinal studies have examined bidirectional relationships using traditional cross-lagged panel models, these approaches cannot disentangle between-person effects from within-person effects.

To address these limitations, the present study employs the Random Intercepts Cross-Lagged Panel Model (RI-CLPM), which separates trait-like between-person stability from time-specific within-person fluctuations. This approach allows for more robust examination of reciprocal relations between relative deprivation and psychological adjustment while controlling for stable individual differences.

This three-wave longitudinal study addresses critical gaps by examining: (1) characteristics of relative deprivation and psychological adjustment among single-parent children; (2) reciprocal relations between these constructs over time; and (3) potential moderation by gender, school level, and family economic status. Based on developmental contextualism and classic relative deprivation theory, we hypothesize a cyclical relationship wherein earlier relative deprivation predicts later maladjustment, which subsequently reinforces relative deprivation.

2 Method

2.1 Participants

Using cluster sampling, we recruited students from grades 3-8 at two public primary schools and two public junior middle schools in a city in Hubei Province. Participants completed three waves of questionnaire assessments at six-month intervals, beginning in March 2017 (T1). Following established criteria, single-parent children were defined as those: (1) experiencing parental divorce, death, or separation; (2) raised by one parent; and (3) under 18 years of age.

The initial sample comprised 273 single-parent children (138 boys, 135 girls;

148 primary school students, 125 junior middle school students). The majority (95.6%) came from divorced families, with 4.4% from families with one deceased parent or other circumstances. Regarding family economic status, 47.8% reported monthly household income below 2000 RMB, 37.9% between 2000-6000 RMB, and 10.3% above 6000 RMB (12 participants did not report income). Following previous research, children from families with monthly income below 2000 RMB who self-identified as impoverished were classified as economically disadvantaged, resulting in 128 impoverished (46.9%) and 145 non-impoverished (53.1%) participants.

Attrition was minimal, with 255 participants (93.4%) completing all three assessments. Eighteen participants (6.6%) missed at least one wave, with 7 missing at T2 and 11 at T3. Chi-square and t-tests revealed no significant differences between completers and non-completers on gender, school level, family economic status, or any study variables at T1 (all ps > 0.05), indicating that attrition was not systematic.

2.2 Measures

2.2.1 Relative Deprivation We adapted the Scale of Relative Deprivation (SRD) developed by Xiong (2015), which assesses four dimensions: individual-cognitive relative deprivation (C-IRD), individual-emotional relative deprivation (E-IRD), group-cognitive relative deprivation (C-GRD), and group-emotional relative deprivation (E-GRD). The 20-item measure asks children to compare themselves with peers from intact families on five aspects: family economic conditions, family resources, stability of family environment, opportunities for talent development, and parental involvement in schoolwork. Using a 7-point Likert scale (1 = very bad/very dissatisfied to 7 = very good/very satisfied), all items were reverse-scored so that higher scores indicated greater relative deprivation. Cronbach' s α coefficients were 0.88, 0.90, and 0.89 across the three waves. Confirmatory factor analyses demonstrated good structural validity at each time point (e.g., T1: ^{2}/df = 2.35, CFI = 0.94, TLI = 0.93, RMSEA = 0.06). Measurement invariance testing confirmed the scale' s temporal stability .

2.2.2 Psychological Adjustment Following established paradigms, we assessed psychological adjustment using four indicators: depression, loneliness, social anxiety, and self-esteem.

Depression. We used the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), revised by Chen et al. (2009). This 20-item scale assesses the frequency of depressive symptoms during the past week using a 4-point scale (1 = rarely or none of the time to 4 = most or all of the time). Cronbach' s α coefficients were 0.89, 0.86, and 0.77 across waves.

Loneliness. We used the Children' s Loneliness Scale (CLS; Asher et al., 1984), revised by Liu (1999). This 21-item measure assesses loneliness (e.g., "I have

nobody to talk to in class") using a 4-point scale (1 = not true at all to 4 = true all the time). Cronbach' s α coefficients were 0.88, 0.79, and 0.75 across waves.

Social Anxiety. We used the Social Anxiety Scale for Children (SASC; La Greca et al., 1988), revised by Ma (1999). This 10-item scale assesses social anxiety (e.g., "I worry about what other kids think of me") using a 4-point scale (1 = never to 4 = always). Cronbach' s α coefficients were 0.87, 0.84, and 0.88 across waves.

Self-Esteem. We used Rosenberg' s Self-Esteem Scale (SES; Rosenberg, 1965). This 10-item measure uses a 4-point scale (1 = strongly disagree to 4 = strongly agree). Following recommendations for Chinese samples, we removed item 8 due to cultural differences in interpretation. After reverse-scoring appropriate items, higher scores indicated higher self-esteem. Cronbach' s α coefficients were 0.86, 0.83, and 0.84 across waves.

We modeled psychological adjustment as a latent variable with depression, loneliness, social anxiety, and self-esteem as indicators. Confirmatory factor analyses demonstrated good fit at each wave (e.g., T1: ^{2}/df = 3.54, CFI = 0.92, TLI = 0.91, RMSEA = 0.07). Measurement invariance testing confirmed temporal stability for all four scales .

2.3 Procedure

After obtaining informed consent from schools and participants, we administered three waves of group testing during scheduled class periods. Each session lasted approximately 20 minutes. Trained graduate students in psychology served as proctors, explaining instructions, emphasizing confidentiality and voluntary participation, and monitoring data quality. The content and procedures were consistent across waves, with only minor adjustments to item order.

2.4 Data Analysis

First, we conducted repeated measures MANOVAs using SPSS 23.0 to examine differences in relative deprivation and psychological adjustment across demographic variables. Second, we performed Pearson correlation analyses to assess bivariate associations among study variables. Third, we used Mplus 8.3 to estimate a Random Intercepts Cross-Lagged Panel Model (RI-CLPM) to examine reciprocal relations while separating between-person and within-person effects. Fourth, we conducted multi-group SEM to test whether these relations differed by gender, school level, and family economic status.

2.5 Common Method Bias

Given that all measures were self-reported, we assessed common method bias using Harman's single-factor test. At each wave, multiple factors had eigenvalues greater than 1, with the first factor explaining 20.87%, 19.38%, and 20.64% of

variance respectively—well below the 40% threshold. This suggests that common method bias was not a serious concern.

3 Results

3.1 Characteristics of Relative Deprivation and Psychological Adjustment

A 2 (gender) × 2 (school level) × 2 (family economic status) × 3 (time) repeated measures MANOVA revealed several significant effects . For relative deprivation, the main effect of family economic status was significant, $F(1, 17) = 9.94$, $p = 0.007$, $^2p = 0.36$, with impoverished children reporting higher levels than non-impoverished children.

For psychological adjustment indicators, gender showed significant main effects on depression, $F(1, 17) = 5.90$, $p = 0.028$, $^2p = 0.25$, and loneliness, $F(1, 17) = 12.43$, $p = 0.003$, $^2p = 0.39$, with boys reporting higher levels than girls. Family economic status showed significant main effects on depression, $F(1, 17) = 9.01$, $p = 0.009$, $^2p = 0.33$, loneliness, $F(1, 17) = 15.42$, $p = 0.001$, $^2p = 0.47$, and self-esteem, $F(1, 17) = 16.89$, $p = 0.017$, $^2p = 0.34$. Impoverished children reported higher depression and loneliness, and lower self-esteem than non-impoverished children. No other main effects or interactions were significant.

3.2 Relations between Relative Deprivation and Psychological Adjustment

3.2.1 Correlation Analysis Pearson correlations revealed that relative deprivation was significantly positively correlated with depression, loneliness, and social anxiety, and significantly negatively correlated with self-esteem at all three waves ($ps < 0.05$) . These patterns satisfied prerequisites for cross-lagged analysis.

3.2.2 Cross-Lagged Analysis Based on developmental contextualism and correlation results, we estimated an RI-CLPM to examine reciprocal relations between relative deprivation and psychological adjustment. We modeled relative deprivation and psychological adjustment as latent variables with their respective indicators. Following established practices, we used item parceling to simplify the model. We extracted random intercepts to represent stable between-person differences (trait components) and residual components to capture within-person fluctuations (state components). The model controlled for gender, school level, and family economic status.

The final model demonstrated good fit ($^2/df = 3.98$, CFI = 0.91, TLI = 0.90, RMSEA = 0.07, SRMR = 0.06) [Figure 1: see original paper]. At the between-person level, random intercepts for relative deprivation and psychological adjustment were significantly negatively correlated ($r = -0.22$, $p < 0.05$), indicating

that children with higher trait-like relative deprivation showed poorer trait-like adjustment.

At the within-person level, after controlling for between-person stability, both constructs showed significant autoregressive stability. Critically, T1 relative deprivation significantly predicted T2 psychological adjustment (β = -0.38, p < 0.01), which in turn significantly predicted T3 relative deprivation (β = -0.18, p < 0.05). Additionally, T2 relative deprivation significantly predicted T3 psychological adjustment (β = -0.42, p < 0.01). However, T1 psychological adjustment did not significantly predict T2 relative deprivation (β = -0.04, p > 0.05).

These results support a cyclical relationship: earlier relative deprivation predicts later maladjustment, which subsequently predicts increased relative deprivation.

3.2.3 Moderation by Demographic Variables Multi-group SEM analyses examined whether these reciprocal relations differed across gender, school level, and family economic status . The cyclical pattern did not differ significantly by gender or school level, indicating its applicability across these groups. However, significant differences emerged by family economic status. Wald tests revealed that the path from T1 psychological adjustment to T2 relative deprivation was significantly stronger for impoverished children (β = -0.12) than for non-impoverished children (β = -0.01, p < 0.05), with the latter path being non-significant.

4 Discussion

This three-wave longitudinal study examined characteristics and reciprocal relations between relative deprivation and psychological adjustment among single-parent children. Key findings include: (1) gender and family economic status differences in adjustment; (2) a cyclical relationship where earlier relative deprivation predicts later maladjustment, which subsequently predicts increased relative deprivation; and (3) stronger effects of psychological adjustment on relative deprivation among impoverished children.

4.1 Characteristics of Relative Deprivation and Psychological Adjustment

Impoverished single-parent children reported higher relative deprivation than their non-impoverished counterparts, consistent with previous research demonstrating that socioeconomic status inversely predicts relative deprivation. These children face dual stressors: family structural changes and material deprivation, heightening their sense of disadvantage.

Boys reported higher depression and loneliness than girls, aligning with research suggesting that boys may be more vulnerable to psychological problems following parental divorce due to gender role expectations and differences in emotional

expression and social support seeking. Additionally, impoverished children showed poorer adjustment across multiple indicators, underscoring the need for targeted interventions addressing both material and psychological needs.

4.2 Reciprocal Relations between Relative Deprivation and Psychological Adjustment

Our findings reveal a cyclical relationship between relative deprivation and psychological adjustment. At the between-person level, children with chronically high relative deprivation showed consistently poor adjustment, and vice versa. At the within-person level, temporal fluctuations in relative deprivation predicted subsequent changes in adjustment, which then predicted later changes in relative deprivation.

This pattern supports developmental contextualism' s emphasis on circular effects and extends classic relative deprivation theory by demonstrating that the relationship is not merely unidirectional or bidirectional, but cyclical. The RI-CLPM approach strengthens these conclusions by separating stable trait components from time-specific state fluctuations, providing more robust evidence than traditional CLPM.

The cyclical nature may reflect two processes. First, according to relative deprivation theory, comparisons with intact family peers lead single-parent children to perceive disadvantage, generating feelings of deprivation that undermine adjustment through negative emotions and reduced self-worth. Second, according to psychological adjustment theory, maladjusted children develop cognitive biases that amplify perceived gaps between themselves and others, increasing susceptibility to relative deprivation. These processes create a self-reinforcing cycle.

Importantly, this cyclical pattern was stable across gender and school level, suggesting its generalizability. However, the stronger effect of adjustment on relative deprivation among impoverished children indicates that material hardship amplifies the psychological consequences of maladjustment, making these children particularly vulnerable to the cyclical process.

4.3 Theoretical and Practical Implications

This study advances theory by providing robust longitudinal evidence for cyclical relations between relative deprivation and adjustment among single-parent children, supporting developmental contextualism and extending relative deprivation theory to this vulnerable population. Practically, interventions should target both constructs simultaneously to break the detrimental cycle. For children high in relative deprivation, programs should promote adaptive social comparisons and build self-efficacy. For maladjusted children, interventions should address negative cognitions and provide emotional regulation strategies. Special attention must be paid to impoverished single-parent children, who face compounded risks.

4.4 Limitations and Future Directions

Several limitations warrant mention. First, although three waves allowed examination of cyclical patterns, longer follow-up with more assessment points would strengthen causal inferences. Second, sample size was modest, and attrition, though minimal, may have affected representativeness. Third, our classification of economic disadvantage, while empirically grounded, could be refined using multiple indicators. Fourth, our sample was drawn from one province in central China, limiting generalizability to other regions and family types. Future research should address these limitations and explore additional moderators and mechanisms underlying these relations.

5 Conclusion

(1) Single-parent boys showed higher depression and loneliness than girls; impoverished single-parent children exhibited higher relative deprivation, depression, and loneliness, and lower self-esteem than non-impoverished children.

(2) After controlling for demographic variables and separating between-person effects, within-person analyses revealed that T1 relative deprivation negatively predicted T2 psychological adjustment, which subsequently predicted T3 relative deprivation; T2 relative deprivation also negatively predicted T3 psychological adjustment.

(3) The cyclical pattern was stable across gender and school level but differed by family economic status, with psychological adjustment exerting stronger effects on relative deprivation among impoverished children.

These findings highlight the importance of addressing both relative deprivation and psychological adjustment in interventions for single-parent children, particularly those facing economic hardship.

Note: Figure translations are in progress. See original paper for figures.