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System Justification, Mental Health, and Behavior Among Disadvantaged Mothers and Their Children

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Abstract

Integrating social psychological research with work in child development, this study explored relationships between system justification (Jost & Banaji, 1994), maternal mental health and child externalizing behavior among low-income immigrants and racial/ethnic minorities. Dominican, Mexican and African-American families ($N = 239$) were assessed when children were 14-, 24- and 36-months old. SEM was used to explore longitudinal relationships between maternal system justification and mental health and associations with child behavior. Earlier mental health was negatively related to later system justification and system justification was negatively related to children's externalizing behavior. Implications for system justification theory, child development and immigration are discussed.

As in most societies, US society has hierarchies of status and power based, in part, on class, race and ethnicity. These hierarchies have direct ramifications for family well-being and child development. Through a complex pattern of economic and psychological processes, racial/ethnic and immigrant disparities in parental physical and mental health and early childhood outcomes such as socio-emotional development and school readiness have already developed by the time children enter school (e.g. Lee & Burkham, 2002; Raver & Zigler, 1997; Williams, Yu, Jackson & Anderson, 1997). Given that only some of these disparities can be explained by differences in parental income and human capital (e.g. Crosnoe, 2006; Nord & Griffin, 1999), there is a need for research to consider psychological factors through which social status influences family well-being and children's development (Dodge, Petit & Bates, 1994; Garcia Coll et al., 1996). Applying a social-psychological lens, the current study posits that system justification (Jost & Banaji, 1994) is one such process and explores its role in the mental health and socio-emotional development of immigrant and minority mothers and their young children. In so doing, I aim to expand research on system justification by exploring how system-justifying beliefs change over time and relate to maternal mental health and early child development among key disadvantaged groups in the US.

System justification theory proposes that individuals possess a motive to justify and rationalize the status quo, viewing the existing set of social, economic and political arrangements as fair, legitimate and desirable simply because they exist (Jost & Banaji,

1994; Jost & van der Toorn, in press). Although it can lead to negative social and economic consequences for some individuals, especially members of disadvantaged groups, system justification operates as a powerful motive because it satisfies fundamental social and psychological needs, particularly epistemic needs for consistency, certainty and meaning, existential needs to manage threat and anxiety, and relational needs to achieve a shared reality with others (Jost & Hunyady, 2005; Jost, Ledgerwood & Hardin, 2008; Jost & van der Toorn, in press).

Research suggests that individuals employ multiple cognitive and ideological mechanisms to justify the status quo, including stereotyping (Jost & Banaji, 1994; Kay & Jost, 2003), rationalization processes (Kay, Jimenez & Jost, 2002) and the endorsement of belief systems such as meritocratic ideology and the Protestant work ethic (e.g. Jost & Burgess, 2000; Jost & Hunyady, 2005; Jost & Thompson, 2000). In addition, people at all levels of the social hierarchy, including those in disadvantaged positions, engage in system justification (Furnham & Proctor, 1989; Jost & Hunyady, 2002; Jost & van der Toorn, in press; Kleugel & Smith, 1986). While this may seem counterintuitive, it is testament to the importance of the fundamental needs underpinning the system-justifying motive. Moreover, due to rationalization and dissonance processes, emerging research suggests that members of disadvantaged groups may report even higher levels of system justification than members of advantaged groups, at least under certain circumstances (Henry & Saul, 2006; Jost, Banaji, & Nosek, 2004; Jost, Pelham, Sheldon & Sullivan, 2003). Thus, it is not only those that benefit from the system who justify the status quo; many who are disadvantaged by it also legitimize existing social arrangements. This reality has clear ramifications for the maintenance of the status quo, and may play an important role in the psychological well-being and development of disadvantaged mothers and their children.

Because it satisfies basic needs, buffers stress from negative events, and serves as the basis for coping strategies, system justification is generally hypothesized to serve a palliative function (Jost & Hunyady, 2002, 2005; O'Brien & Major, 2005; Major et al., 2002). Evidence from experimental and correlational studies supports this hypothesis, at least in the short-term: system-justifying beliefs have been associated with improved mental health and higher subjective well-being, including increased positive affect, life satisfaction and sense of personal mastery, security and meaning, as well as decreased anger, frustration, anxiety and depressive symptoms (Dalbert, 2001, 2002; Jost & Hunyady, 2002; Kleugel & Smith, 1986; Rankin, Jost & Waksal, 2009; Lipkus, Dalbert & Seigler, 1996; Mirels & Darland, 1990). However, theory also suggests that system justification may not be beneficial to all. For members of disadvantaged groups, believing that the current social system is just and fair creates psychological conflict by pitting the need to justify the system against equally powerful needs to feel good about one's self and one's group (Jost et al., 2004; Jost, Burgess & Mosso, 2001; Jost & Hunyady, 2002, 2005). Thus, Jost and colleagues predict system justification to be associated with psychological well-being among members of advantaged groups, but distress among members of disadvantaged groups.

Only a handful of studies have empirically examined the relationship between system justification and psychological well-being in members of disadvantaged and stigmatized groups. In a series of studies among African- and European-American college students, Jost

and Thompson (2000) found that higher system justification was associated with diminished well-being (higher neuroticism and lower self-esteem) for African-American students, but improved well-being for European-American students. Likewise, Quinn and Crocker (1999) found that average-weight college women who endorsed system-justifying beliefs reported fewer anxious and depressive symptoms; whereas overweight women (a stigmatized group) who justified the system reported more anxiety and depression. This pattern was replicated experimentally: overweight women primed with a system-justifying message showed increases in anxious and depressive symptoms compared to those primed with a control message, whereas average-weight women did not. The results of two other studies, however, suggest that the relationship between system justification and well-being among disadvantaged groups may be more nuanced. In a nationally representative sample of low-income respondents, Rankin et al. (2009) found system justification to be negatively related to certain measures of subjective well-being for black respondents, including anxiety, self-esteem, sense of mastery and financial optimism, but unrelated to others such as positive affect, life satisfaction, frustration and anger. Finally, O'Brien and Major (2005) found that Black and Latino college students who endorsed system-justifying beliefs had higher rates of depressed affect than their White counterparts, but only when they identified highly with their group.

This emerging body of research suggests that system justification may be an important psychological process through which societal disadvantage is transmitted into the lives of immigrant and minority families (e.g. Garcia Coll et al., 1996). For the full implications of system justification to be understood, however, the current research base needs to be expanded in several ways. First, our current understanding of system justification is based on inferences from cross-sectional and experimental data, and little is known about how system justification unfolds over time within individuals in their everyday contexts. Exploring longitudinal trajectories of system justification is useful for a few key reasons. First, it allows for an examination of the amount of natural variability in system-justifying beliefs that lies between versus within individuals, shedding light on the degree to which system-justifying tendencies are driven by stable and dispositional factors as opposed to situational and dynamic factors. Second, exploring trajectories of system justification allows us to uncover consistent patterns of change in system justification over time. Third, current research makes the assumption that mental health outcomes are the result of system-justifying beliefs and not the other way around. There is little empirical basis for this assumption given the reliance on cross-sectional data. There is little theoretical basis as well: scholars argue that it is equally plausible for individuals to invoke system justification in response to psychological discomfort (Rankin et al., 2009) and that the relationship between these two constructs may be mutually interdependent, dynamic and reciprocal. Longitudinal research is needed to explore the pattern of relationships between system justification and mental health over time and tease apart the direction of effects as they operate in people's everyday lives.

A second way in which the current research base on system justification needs to be expanded is by considering how parental system-justifying beliefs may influence children's development. To begin this inquiry, I focus on early childhood. This period is critically important for children's long-term development and may be a potentially important period

for system justification as well. J.T. Jost (personal communication, November, 2009) posits that the transition to a new baby may elicit more system-justifying tendencies as parents experience heightened needs to see the world they have brought their child into as safe, controllable, meaningful and just. It is likely that maternal system justification influences young child development through multiple parental processes. In the absence of previous research in this area, however, we focus on one potentially important pathway suggested by a longstanding body of research in child development: maternal mental health. A robust body of literature has established that maternal mental health and distress can affect foundational socioemotional skills in young children. Compared to their peers, infants and toddlers of depressed mothers are at greater risk for behavioral problems, including externalizing behaviors such as hitting, whining, yelling and fighting with other children (e.g. Cicchetti, Rogosch & Toth, 1998; Dodge, 1990; Downey & Coyne, 1990; NRC & IOM, 2009; Shaw, Gilliom, Ingoldsby & Nagin, 2003) that have long-term repercussions for developmental outcomes such as peer relationships, delinquency, substance use and academic performance (Cairns & Cairns, 1994; Campbell, 2002). Thus, we expect system justification to be indirectly related to children's behavioral outcomes through its influence on maternal mental health.

Finally, we add to previous literature by examining the longitudinal relationships between system justification and maternal mental health and their influence on child behavior among members of key disadvantaged groups in the US (low-income urban racial/ethnic minorities and immigrants) which have received less attention in the system justification literature to date and often experience greater mental health problems as a result of discrimination and socioeconomic status (NRC & IOM, 2009). While previous research has typically compared associations between system justification and mental health for low-status vs. high-status groups, the focus of this study is not explicitly comparative. Rather, I focus specifically on low-income native-born African-Americans and low-income immigrant Dominicans and Mexicans in New York City, seeking to illuminate system justification as a hidden process contributing to disparities in psychological distress and child functioning within a sample facing multiple societal disadvantages due to their income, racial/ethnic group membership and immigrant status. While the motivation of this study is not to compare these groups to their more advantaged counterparts, I do explore whether there are differences between African-Americans, Dominicans and Mexicans in endorsement of system-justifying beliefs and patterns of relationships between system justification, maternal mental health and child behavior. This recognizes that while these groups are similar in terms of their economic disadvantage and concentration in neighborhoods characterized by low economic and educational opportunities, violence and other structural barriers (Charles, 2003; Orfield & Lee, 2006; Reardon-Anderson, Capps & Fix, 2002), they also face unique sources of societal disadvantage and discrimination (history of oppression, societal stereotypes, skin color, language ability, documentation status) that may influence system justification and its consequences (c.f. Crandall & Eshelman, 2003; Yoshikawa, 2011). In addition, the largely immigrant Dominican and Mexican mothers differ from the native-born African-American mothers in their comparative perspective on the US system and their motivations and expectations for economic success in this country (e.g., Kao & Tienda, 1995), which may also shape their tendencies to justify the system.

Current Study

The current study draws on three waves of longitudinal data from a sample of low-income and immigrant Dominican, Mexican and African-American mothers and their young children to address the following research questions. (1) What are the average levels and patterns of change in maternal system justification across three waves of data? How much variation occurs between vs. within individuals? Given previous research indicating that system justification is driven by both dispositional and situation factors, I hypothesize variation both between and within individuals. (2) What is the longitudinal pattern of relationships between maternal system justification and maternal psychological distress across three waves of data? Given previous experimental work suggesting that system justification is negatively related to psychological well-being among members of stigmatized groups, I hypothesize that system justification at earlier waves will be positively related to higher psychological distress at later waves. However, because this is the first research to explore psychological well-being as a predictor of system justification, I do not specify a directional hypothesis for the relationship between earlier psychological distress and later system justification. (3) Are patterns of maternal system justification and mental health across three waves of data related to children's externalizing behavior at the last wave? Given documented relationships between system justification and psychological distress among disadvantaged groups and maternal psychological distress and child socioemotional development, I hypothesize that higher system justification will be indirectly related to increased child externalizing behavior via maternal psychological distress. However, because there are likely other parental processes linking system justification and child behavior not included in the current study, I also hypothesize a direct relationship between maternal system justification and child behavior. (4) Are the above relationships predicted or moderated by racial/ethnic group membership? Given the complex variation in disadvantage and comparative perspectives across these groups, this question is exploratory and no a priori hypotheses are made.

Method

Data for this study come from a larger study of 366 Dominican, Mexican, African-American and Chinese mothers and their children in New York City. These ethnic groups represent a large proportion of the population of New York City (Yoshikawa, 2011) and include the largest immigrant groups in the city. Mothers were recruited from postpartum wards in three large hospitals in 2004–2005 within two days of giving birth. Hospitals were selected because they drew new births from low-income neighborhoods with high concentrations of the study's target ethnic groups. To participate in the study, mothers had to be over age 18, live in New York City, self-identify as Chinese, Mexican, Dominican, or African American, and have a healthy full-term infant. The current study focuses on interview data collected from in-home face-to-face interviews when children were 14-, 24- and 36-months old, when measures of both system justification and mental health were administered. These visits were only completed for the 310 Dominican, Mexican and African-American families in the sample.¹ Trained female graduate students collected all data in the mothers' preferred language, and participants were compensated \$50 per wave.

A total of 239 mothers provided data for at least one of the 14-, 24, or 36-month waves and comprise the longitudinal sample (Dominican = 85, Mexican = 74 and African American = 80). In all cases, mothers reported being their child's primary caretaker at each wave. Eighty percent of Dominican mothers and 96% of Mexican mothers were foreign-born; all African-American mothers were native-born. At the 14-month wave, the mean age of mothers was 27 (SD = 5.51) years old and the average family income was \$28,298 (SD = \$16,888) in the year prior to the child's birth. Forty-five percent had a high school diploma and 69% were married or cohabiting with the child's father. Attrition analyses indicated no significant differences above chance between mothers with and without data at the 14-, 24- and 36-month waves on baseline covariates such as racial/ethnic group, immigrant status, years in the US, mother's age, child's gender, birth order, household income, education, receipt of public assistance, marital/cohabiting status, depression or social support. To address missing data across the 14-, 24- and 36-month waves, all analyses employ full information maximum likelihood (FIML) in Mplus version 5.2 (Muthen & Muthen, 1998–2007). FIML provides efficient estimation of statistical parameters from data with missing values, allowing retention of the complete sample for all analyses and provides less-biased parameter estimates than other procedures even when data are missing at random (Graham, 2009; Schaefer & Graham, 2002).²

Measures

All measures were created so that high scores indicate higher levels of the construct.

System justification—Endorsement of general system-justifying beliefs was measured at the 14-, 24- and 36-month waves using a system justification scale adapted from Kay and Jost (2003). The scale included six items measuring perceptions of fairness, legitimacy and justifiability of the US social system (average $\alpha = .74$ across wave and racial/ethnic group).³ Sample items included: “The US is basically a fair society,” and “In general, the US government operates well,” on a 4-point scale from 1 (strongly disagree) to 4 (strongly agree). To avoid the possibility that responding to the system justification items might influence subsequent reports of psychological distress, system justification was always assessed after psychological distress and the two measures were separated from each other by many unrelated items.

Psychological distress—Maternal mental health was assessed at the 14-, 24- and 36-month waves using four items tapping psychological distress from the K6 (Kessler et al., 2002). Mothers reported on how frequently they experienced four types of distress (feeling:

¹The 56 Chinese participants were dropped from the study as it was found that the majority of their infants were sent back to China to be raised by family members until they reached school age. This common practice allowed undocumented Chinese immigrant parents to work 72-hour weeks in order to pay back large sums of money owed to traffickers (Yoshikawa, 2011).

²Follow-up analyses supported the assumption that longitudinal data in this sample was missing at random. We compared respondents with missing and non-missing data for each of the longitudinal missing data patterns found in our study across a range of characteristics, including racial/ethnic background, education, income, employment, years in the US, maternal and child age, child gender, maternal marital status, and total adults and children in the household. No significant differences in these characteristics were found for any longitudinal missing data pattern.

³Two items on the original scale, “Everyone has a fair shot at wealth and happiness” and “Society is set up so that people usually get what they deserve” were dropped from the current study because the results of measurement invariance analyses (described below) suggested they did not measure system justification in the same way across study waves or racial/ethnic groups.

nervous; restless or fidgety; so depressed nothing can cheer you up; and that everything is an effort) during the past 30 days (average $\alpha = .70$ across wave and racial/ethnic group). Responses were collected on a 5-point scale ranging from 1 (none of the time) to 5 (all of the time); however, the highest response category was rarely endorsed and was recoded into the next highest category.⁴

Child externalizing behavior—At the 36-month wave, the frequency of child externalizing behavior was assessed through maternal report using items adapted from the short form of the Children's Behavior Questionnaire (Putnam & Rothbart, 2006). The scale consisted of five items tapping acting out behaviors: “breaks things on purpose”, “whines or complains”, “fights with other children”; “hits, pushes, or shoves” and “yells at others” (average $\alpha = .73$ across racial/ethnic group). Responses were collected on a 6-point scale from 1 (almost never) to 6 (almost always).

Racial/ethnic group membership—Racial/ethnic group membership was determined by mothers' self-report.

Covariates—To adjust for some sources of selection bias, theoretically relevant background characteristics collected at the 14-month wave were added to final models. Covariates included: child gender, mother's age; total number biological children in the household; whether mother was married or cohabiting with child's father; whether mother had a high school diploma; years mother had lived in the US and family income in child's first year.

Measurement invariance—When working with data collected over time and from different cultural or racial/ethnic groups, a critical methodological step is to establish the measurement invariance of study measures. This process empirically examines the validity and reliability of multi-item scales across study waves and groups, ensuring that any differences found over time or across groups are due to substantive factors rather than differences in measurement. A series of confirmatory factor analyses was run to evaluate the measurement invariance of items across racial/ethnic group and study waves (where possible). Measurement invariance for each construct was established by comparing models constraining first item factor loadings (metric invariance), then intercepts (strong factorial invariance) and finally residual variances (strict factorial invariance) to be equal across groups/study waves to an unconstrained model in which these were allowed to vary freely. Change in model fit for each type of invariance compared to the unconstrained model was tested using the chi-square difference statistic (χ^2); invariance was established if there was no significant difference in model fit between the constrained and unconstrained models. Full metric invariance and partial strong and strict factorial invariance was established across racial/ethnic groups and study waves for system justification, mental health and child externalizing behavior. These results provide assurance that any differences in key study measures found across study waves or racial/ethnic groups are driven by substantive factors rather than methodological bias (e.g. Gregorich, 2006; Hughes, Seidman & Williams, 1993).

⁴These responses were recoded into the next highest category in order to better approximate a normal distribution at the item level for measurement invariance analyses.

Analytic strategy—All analyses employed structural equation modeling techniques in Mplus version 5.2. Due to model complexity and possible empirical under-identification, scales were modeled as manifest variables rather than latent constructs. As recommended by Hu and Bentler (1999), models were evaluated using several indices of fit. A comparative fit index (CFI) and Tucker-Lewis index (TLI) greater than .9 and a root-mean-square-error of approximation (RMSEA) and standardized root mean square residual (SRMR) lower than .05 to .10 are commonly used criteria to evaluate adequate model fit. In addition, the chi-square difference statistic (χ^2) was used to compare nested models and the Akaike Information Criterion (AIC) was used to select among alternative non-nested models (Kline, 1998; models with a lower AIC are preferred).

Given this study's interest in exploring average levels and change in system justification, as well as the longitudinal and reciprocal relationships between time-specific manifestations of system justification and psychological distress, I drew on techniques presented by Curran and Bollen (2001) and Bollen and Curran (2004) that allow for the combination of autoregressive and latent growth approaches to modeling change. These approaches represent different ways to model and understand change within and between constructs. Autoregressive approaches model change by specifying a measure at each time point to be a function of its immediately preceding measure, plus random error. Latent mean and growth models relate observed variables at each time point to latent underlying factors representing an average level and linear change over time and model between-person variation around these parameters. While the autoregressive approach looks solely at time-specific relationships without considering latent levels or slopes, the latent mean/growth approach focuses on latent levels or slopes without considering time-specific influences. Curran and Bollen (2001) and Bollen and Curran (2004) present a method for combining the two approaches that allow for both time-specific influences among repeated measures and latent growth parameters to be estimated simultaneously. In effect, this specification (termed the "bivariate cross-lagged latent growth model") allows one to consider how constructs are related to each other across time points while holding constant average latent levels and slopes for each construct and cross-construct correlations between latent parameters.

Following Curran and Bollen (2001), analyses proceeded as follows. Before estimating the bivariate cross-lagged latent growth model, I first determined the model (autoregressive, latent mean or latent growth) that best characterized change over the three waves of data for each construct. These analyses not only establish the most appropriate way to model change for each construct, but answer the study's first research question concerning the average level, pattern of change and amount of between- vs. within-person variation in system justification. Conditional models with racial/ethnic group included as a predictor were then estimated to determine whether levels or change in system justification varied significantly by race/ethnicity. Second, I estimated a series of bivariate models in which the best model for change in system justification and psychological distress were estimated simultaneously and associations between their latent parameters and time-specific indicators were modeled. This allows for an examination of the longitudinal pattern of relationships between system justification and psychological distress. Third, I added child externalizing behavior to this model to explore direct and indirect associations between maternal system justification and

child behavior. At steps two and three, multigroup analysis was used to determine whether structural relationships between constructs varied by racial/ethnic group membership (e.g. Kline, 1998). Finally, to account for some sources of selection bias, the final model was estimated while adjusting for the set of theoretically-relevant background characteristics described earlier. Descriptive statistics and correlations for all study variables are presented in Table 1.

Results

Models of change for system justification and psychological distress

Fit statistics for the autoregressive, latent mean, and latent growth models of change in system justification are presented in rows 2–4 of Table 2. The average level of system justification across the three waves was 2.46 (on a scale of 1 to 4, thus representing an average response in between “disagree” and “agree” to items assessing system justification). The variance of the intercept was significant, indicating meaningful variation in average levels of system justification across people. In addition, the residual variances were significant, suggesting that individuals varied over time from their own average level of system justification. Finally, the intra-class correlation was .55, indicating that 55% of the variance in system justification occurs between individuals. Thus, slightly more than half of the variation in system justification is due to individual-difference factors as opposed to dynamic factors.

While the latent mean model was an adequate fit to the data, the latent growth model represented a significantly better fit ($\chi^2(3) = 14.40, p = .01$). Fit statistics suggested that the latent growth model fit the data better than the autoregressive model (see Table 2). In addition, the AIC for the autoregressive model (591) was slightly higher than for the latent growth model (589). As lower AICs indicate a better model fit, this also suggests that the latent growth model is a better fit to the data than the autoregressive model. Thus, the best characterization of change for system justification is the latent growth model with random intercept and slope parameters. In this model, the average level of system justification at the start of the study (14-month wave) was 2.51. There was a small but significant downward trajectory in system justification was found ($b = -.06(0.02); p = .002; \beta = -.38$), indicating that system justification decreases by .06 with every passing wave. The variance of the latent intercept parameter was significant and the variance of the latent slope parameter was significant at trend level. Thus, there is evidence of at least some significant variation across people in initial levels and trajectories of system justification. The correlation between initial levels and change over time was insignificant, suggesting that individual variation in initial levels of system justification is not related to variation in trajectories. Finally, the residual variances were significant: individuals varied significantly from their own estimated trajectories.

The fit statistics for the autoregressive, latent mean, and latent growth models for psychological distress are presented in rows 7–9 of Table 2. The latent mean model fit the data quite well, and the fit was not significantly improved by the addition of a latent slope representing linear change in psychological distress ($\chi^2(3) = 2.35, ns$). Fit statistics suggested that the latent mean model fit the data better than the autoregressive model (see

Table 2). In addition, the AIC for the autoregressive model (1110) was higher than for the latent mean model (1096), also indicating a better fit for the latent mean model. The average level of psychological distress across the three waves was 1.98 (on a scale of 1 to 4, thus representing an average response of “disagree” to items assessing psychological distress) and there was significant variation in average levels of psychological distress across people. Residual variances were also significant, suggesting that individuals varied over time from their own average level of psychological distress. The intra-class correlation was .61, indicating that 61% of the variance in psychological distress occurred between rather than within individuals. Thus, in this sample psychological distress is best represented by a latent mean model representing stable individual differences and no change across study waves.

Fit statistics for conditional models in which racial/ethnic group membership was added as a predictor of latent mean and growth parameters for system justification and psychological distress are presented in rows 5 and 10 of Table 2, respectively. As shown in Figure 1, both Mexican and Dominican mothers had significantly higher initial levels of system justification than African-American mothers. However, racial/ethnic group membership did not significantly predict trajectories of system justification. There were no differences between Mexicans and Dominicans in either their initial level or trajectory of system justification. Finally, there was no significant relationship between racial/ethnic group membership and the latent average level of psychological distress, indicating that psychological distress did not vary across groups. These results persisted after controlling for the set of theoretically-relevant background characteristics.

Longitudinal associations between system justification and mental health

To explore the longitudinal associations between system justification and psychological distress across study waves, I then estimated two models in which the latent growth model for system justification and latent mean model for psychological distress were modeled simultaneously. The first model (termed “bivariate latent growth”) examines whether the latent mean and slope of system justification are correlated with the latent mean of psychological distress. Five additional parameters were included in this model: two covariances between the growth parameters across constructs and three covariances between the residuals for system justification and psychological distress at each wave.⁵ Fit statistics for the bivariate latent growth are presented in row 11 of Table 2. While the model was a good fit for the data, the covariances between the latent parameters for system justification and psychological distress were not significant, indicating that individual variation from the latent mean and slope of system justification is not systematically related to individual variation from the latent mean of psychological distress in this sample.

While the bivariate latent growth model provides information about how the stable latent parameters of change in system justification and psychological distress are related to each other, it does not account for the possibility of time-specific relationships between these constructs, which provide meaningful information about the temporal ordering and direction of influence between constructs. To explore this, I estimated the “bivariate cross-lagged

⁵Equality constraints were imposed on the residual variances and covariances across waves for the sake of parsimony and did not result in a significant deterioration in model fit.

latent growth model,” which combines cross-lagged associations between system justification and psychological distress at each wave with the latent growth parameters for each construct (Curran & Bollen, 2001). This specification allows for the simultaneous influence of the random latent components of change with the time-specific fixed components of change.

The bivariate cross-lagged latent growth model is presented graphically in Figure 2 and fit statistics for this model are shown in row 12 of Table 2. Four cross-lagged parameters were added to the bivariate latent growth model described above. Each of these cross-lagged parameters predicts indicators of one construct at a later wave from indicators of the other construct at an earlier wave. Adding these parameters resulted in a trend-level improvement in model fit over the bivariate latent growth model ($\chi^2(4) = 8.894, p = .06$) and the model was a good fit for the data. Psychological distress at the 14-month wave was significantly positively related to system justification at the 24-month wave and psychological distress at the 24-month wave was significantly positively related to system justification at the 36-month wave. In contrast, system justification at the 14-month wave was negatively related to psychological distress at the 24-month wave (although this association was very small and only marginally significant), and system justification at the 24-month wave was not significantly related to psychological distress at the 36-month wave. A model in which all cross-lagged parameters were constrained to be equal resulted in a significant deterioration of model fit, providing additional evidence that the cross-lagged parameters differ significantly from each other. Taken together, these results suggest that, adjusting for the underlying latent growth parameters and their covariances, mothers who report greater psychological distress at an earlier wave indicate higher system justification at a later wave. Earlier system justification, on the other hand is not consistently related to later psychological distress. Multigroup analyses were then used to explore whether the structural relationships between latent parameters and time-specific indicators of system justification and psychological distress were moderated by racial/ethnic group. No evidence of moderation was found, suggesting that the longitudinal associations between constructs do not differ for Dominican, Mexican and African-American sample members.

Associations with child behavior

Finally, a series of models were estimated to examine associations between maternal system justification and psychological distress and child externalizing behavior. To explore direct relationships between these constructs, I first estimated a model (termed “child externalizing behavior”) in which the indicator for child externalizing behavior was introduced into the bivariate cross-lagged latent growth model and paths between the latent intercept and slope for system justification and externalizing behavior at the 36 month-wave and the latent intercept for psychological distress and externalizing behavior at the 36 month-wave were estimated. Fit statistics, presented in row 13 of Table 2, indicate that this model is a good fit to the data. As illustrated in Figure 3, there was a significant positive relationship between the latent intercept for psychological distress and child externalizing behavior, suggesting that mothers with greater distress report more behavior problems in their young children. In addition, the latent intercept for system justification was significantly negatively related to child externalizing behavior, but the latent slope for system justification was not. This

indicates that mothers with higher average levels system-justifying tendencies report fewer behavior problems in their children, but that change in system justification over the three waves is not related to children's behavior. Multigroup analyses again indicated no significant differences these structural relationships across racial/ethnic groups.

As a final step, the set of theoretically relevant background characteristics were added to this model to adjust for some sources of selection bias. Parameters were added between each covariate and the latent growth parameters for system justification and psychological distress. Although there was no evidence of moderation by racial/ethnic group membership, dummy codes representing Dominican and Mexican (with African-American as the reference group) were included as additional covariates. Fit statistics, shown in row 15 of Table 2, suggest that the model is a good fit to the data. With one exception, the addition of covariates did not change the substantive interpretation of model parameters. The latent slope parameter for system justification was no longer significantly different from zero, and there was no significant between-person variance in slope. Maternal age was the only covariate that significantly predicted the slope of system justification ($b = -.009$ (.003); $p < .01$; $\beta = -.41$), indicating older mothers experience less change in system justification over the three waves.

Discussion

Applying research in social psychology to understand maternal well-being and child development in the context of families' everyday lives, the current study had two central goals: first, to explore the longitudinal pattern of relationships between system justification and psychological distress, and second, to consider the implications of system justification for children's externalizing behavior. These relationships were examined in a sample of previously understudied disadvantaged groups in the US, namely low-income urban racial/ethnic minority and immigrant mothers, and differences in system justification and its relation to mental health and child development across groups were examined. Thus, this study not only addresses gaps in the research on system justification, but evaluates whether the basic motive to legitimize existing social arrangements may be an important unrecognized mechanism influencing maternal mental health and child development among key immigrant and disadvantaged families.

Using three waves of data, this study elucidates the longitudinal relationships between the system-justifying beliefs and mental health of low-income Dominican, Mexican and African-American mothers, finding that mothers' earlier reports of psychological distress predicted greater system justification at a later point in time, but earlier levels of system justification were only weakly and inconsistently related to later psychological distress. In addition, this study provides the first evidence that maternal system-justifying beliefs have important implications for young children's behavioral development. Mothers who endorsed more system-justifying beliefs reported less externalizing behavior in their children. These associations were evident even after controlling for an array of potentially confounding background characteristics. Finally, this study suggests that while the level of system justification differs across racial/ethnic groups with varying types of disadvantage

immigrant statuses and comparative perspectives, its relationship to mental health or child behavior does not vary across these groups.

These findings make a number of contributions to the social psychological, immigrant, and developmental literatures. Most notably, this is the first study to examine trajectories of system justification and provide longitudinal evidence regarding the direction of association between system justification and mental health. Current theory and research suggests that an individual's motivation to justify the system is related to both dispositional and situational factors (c.f. Jost & van der Toorn, in press). Although experimental studies suggest that certain situational manipulations increase system-justifying tendencies (Jost & Hunyady, 2005; Kay & Zanna, 2009; van der Toorn, Tyler & Jost, 2010), this is the first study to empirically examine trajectories of system justification and assess naturally occurring, between- and within-person variation in the construct. The current findings support previous work indicating that system justification has both stable and dynamic antecedents. In addition, I found a small but significant downward linear trajectory in system justification over time, suggesting that, on average, tendencies to justify the system declined slightly over time in this sample of low-income racial/ethnic minority and immigrant mothers. However, this trajectory was not significantly different from zero when background characteristics were added to the model. This seems to be due to an inverse relationship between maternal age and the slope of system justification, which becomes flatter with increasing age. This finding raises the possibility of developmental differences in trajectories of system-justifying tendencies, which may be characterized by systematic change during young motherhood but not later in life. It is also possible that this downward trajectory of system justification among young mothers could be an artifact of repeated measurement of the system justification items if they are implicitly encouraging participants to think critically about social conditions.

Utilizing Curran and Bollen's (2001) framework, I also examined the relationship between the stable underlying components of change and the time-specific idiosyncratic components of change in these constructs. While no relationships between stable average levels or trajectories of system justification and psychological distress were found, there were significant cross-lagged relationships between the time-specific manifestations of these constructs. Since both types of change were estimated in a single model, these can be understood as the time-specific relationships between constructs while adjusting for their average underlying levels and slopes. Surprisingly, the most robust and consistent relationships were between psychological distress at an earlier point in time and system justification at a later point in time: mothers who reported more psychological distress at the 14- and 24-month waves endorsed higher system justification at the 24- and 36-month waves. In contrast, earlier system justification was related to later psychological distress only between the 14- and 24-month waves and this association was small and significant only at trend level. These results suggest that system-justifying beliefs do not lead to mental health as hypothesized, but that mental health leads to system justification, at least in this sample.

The fact that I do not find a strong negative relationship between earlier indicators of system justification and later indicators of psychological distress, or between their latent growth

parameters, was unexpected given previous studies demonstrating an overall negative relationship between system justification and mental health among members of disadvantaged groups (Jost & Thompson, 2000; O'Brien & Major, 2005; Quinn & Crocker, 1999). As the current study is the first to utilize a longitudinal framework to examine associations between system justification and mental health among low-income racial/ethnic minority and immigrant mothers, this discrepancy could be attributable to differences in sample and methodology. However, the overall pattern of results suggests another possibility: whereas members of advantaged groups reap the palliative benefits of system justification, members of disadvantaged groups may simply receive no benefit to mental health at all. This interpretation is consistent with work by Rankin et al. (2009), who find a negative relationship between system justification and some aspects of subjective well-being among low-income African-Americans, but no relationship with others. A null relationship may be especially likely given that the psychological distress measure used in this study captures more clinical manifestations of anxiety and depression than the mood and personality measures used in previous studies (Kessler et al., 2002). More research is needed to understand the relationship between system justification and varying manifestations of mental health among members of a variety of disadvantaged groups.

Why might earlier psychological distress predict later motivations to justify the system? One possibility is that mothers engage in greater system justification as a way of coping with psychological distress. Viewing the social system as increasingly legitimate, stable and just may help mothers cope with distress by reinforcing the notion that the world is more controllable, safe and secure. This possibility is supported by research on compensatory control (Kay, Gaucher, Napier, Callan & Laurin, 2008; Kay, Whitson, Gaucher & Galinsky, 2009), which suggests that individuals are more likely to defend external systems such as sociopolitical institutions when perceived personal control is diminished. Given the body of clinical literature indicating that depression is associated with lower perceived personal control (e.g. Benassi, Sweeney & Dufour, 1988), it could be that decreased feelings of personal control associated with psychological distress trigger increased system justification.⁶ Of course, it could be that the relationship between earlier psychological distress and later system justification is driven by other factors not assessed in this study, such as changes in group identity or conservative ideology. While this study provides initial evidence that increases in psychological distress may lead to increases in system justification (at least among disadvantaged mothers of young children), future research is needed to replicate this relationship and explore its underlying mechanisms.

The second contribution of the current study is that it brings together the social psychological literature on system justification with the developmental literature on parenting and children's behavioral outcomes, evaluating system justification as a mechanism linking social status to child development in disadvantaged and immigrant families. Indeed, I do find a significant relationship between mothers' latent level of system

⁶The fact that an increase in system justifying beliefs does not ultimately lead to a decrease in psychological distress does not undermine the coping explanation. Theoretical and empirical work on coping makes a distinction between coping mechanisms and their subsequent outcomes, conceptualizing coping as any effort to manage demands and stressors, regardless of the success of that effort (Folkman, 1984).

justification and child behavior. Contrary to expectations, however, mothers' system justification was negatively associated with child externalizing behavior, suggesting that mothers with higher system-justifying tendencies reported fewer acting-out behaviors in their young children. I had initially expected mothers with higher system-justifying tendencies to experience more psychological distress and therefore report more acting-out behavior in their children. The results of this research suggest that system justification does indeed relate to early child behavior, but that this relationship may be driven by factors other than maternal mental health. Why might mothers' system justification be related to the behavioral development of their young children? One possibility is through other parenting factors such as disciplinary practices and beliefs about child autonomy and obedience. Research indicates that these factors are related to child behavior (e.g. Bradley, Corwyn, Burchinal, McAdoo & Garcia Coll, 2001; Gershoff, 2002; NICHD ECCRN, 2004) as well as belief systems correlated with system justification (Barker & Tinnick, 2006; Danso, Hunsberger & Pratt, 1997, Ellison, Bartkowski & Segal, 1996; Giles-Sims, Straus & Sugarman, 1995). Another possibility is that mothers who are motivated to legitimize and justify the system and thereby view the world as more controllable, safe and secure may also strive to create this kind of environment for their children, improving their behavioral outcomes. It may also be the case that mothers with higher system justifying beliefs work harder to socialize their children with the right behavior and skills to take advantage of the opportunities for happiness and success afforded by a fair and just society. However, it could also be that the relationship between system justification and child behavior is due to other maternal characteristics such as parenting efficacy or optimism. Clearly, more research is needed to understand the mechanisms linking maternal system justification to child behavior.

Third, although research is beginning to explore system-justifying beliefs outside of college samples, studies have rarely examined these beliefs among groups facing the most structural disadvantage in US society, or in mothers of young children. These are important oversights given that system justification theory would predict this segment of the population to endorse relatively higher levels of system justification and experience its negative psychological consequences more acutely (Jost et al., 2004; Jost & Thompson, 2000; Rankin et al., 2009). We add to current literature by examining system justification and its consequences for mental health and child development among some of the most disadvantaged groups in US society and exploring differences across groups facing different sources of disadvantage.

On average, respondents in our sample endorsed the midpoint of the system justification scale. This level of endorsement is similar to a nationally representative sample of low-income white and black respondents (Rankin et al., 2009), but higher than levels that have been found among white and black college students (e.g. Jost & Thompson, 2000). Because these studies employ different measures, they are not directly comparable. However, these results do suggest that mothers of young children from groups who experience relatively more societal disadvantage may, paradoxically, have higher system justification.

There were no differences in the *relationships* between system justification, mental health and child behavior across racial/ethnic group, suggesting that these processes operate

similarly across groups similar in their economic status but different in other types of disadvantage such as skin color, stereotypes, and immigration status. However, I do find that both Dominican and Mexican mothers expressed significantly higher average *levels* of system justification than African-American mothers. These results hold after controlling for a set of theoretically-relevant covariates, including number of years in the US. Given that the vast majority of Dominican and Mexican mothers in our sample are immigrants and all African-American mothers are native born, this finding supports the possibility that immigrants are more motivated to justify the US system than members of a similarly advantaged, native-born group. These results are consistent with system justification theory, which suggests that immigrants moving to the US of their own volition should be even more motivated to legitimize the American system (Jost et al., 2004). They are also consistent with the widely observed phenomenon of “immigrant optimism”, whereby first generation immigrants often express high optimism concerning their future prospects and economic success and perceive lower levels of discrimination (Kao & Tienda, 1995; Suarez-Orozco & Suarez-Orozco, 2001).⁷

However, it is worth noting that the difference in level of survey-reported system justification between immigrant and native-born groups may not be purely attributable to the motive to justify the system, but could reflect cognitive dissonance associated with the immigration experience. While this is a possibility, it is precisely this cognitive dissonance that is hypothesized to lead to increased system justification among volitional immigrants (Jost et al., 2004). Alternatively, it could be that the scale used to measure system justification is capturing differences in individuals’ confidence in the US system rather than their motivation to defend it (e.g. Banfield, Kay, Cutright, Wu, & Fitzsimons, 2011) and thus is representing immigrants’ favorable comparisons of the US system to their system of origin instead of differences in their system-justifying motivations. While this possibility cannot be definitively ruled out, I do find both stable and dynamic sources of variation in this measure of system justification over time, suggesting that the measure is capturing something more than stable system confidence. While more work is needed to isolate the reason for higher reports of system justification among immigrants, from an applied standpoint, this study provides important initial evidence that immigrants differ from native-born Americans in their perceptions and justifications of the US system and highlights the importance of incorporating these factors into work on system justification theory and immigration.

Some key limitations of this study should be mentioned. First, this analysis is not causal. While the threat of selection bias is mitigated by the longitudinal design, inclusion of theoretically-relevant covariates, and alternative model specifications, caution should be used in drawing causal inferences. Second, this study estimated longitudinal relationships between system justification and psychological distress across a 10–12 month span. It is possible that different results would have arisen had the two constructs been assessed at

⁷Because racial/ethnic group membership is confounded with immigrant status in this study, to try to further test this possibility, I explored the relationship of immigrant status (foreign vs. native born) in the one ethnic group in which there was some variation: Dominicans. About 80% of Dominican mothers in the sample are immigrant and the rest are native born. The results of this analysis support my interpretation of the findings. Within this group, immigrant mothers endorsed significantly higher system justification ($M = 2.58$) across all waves of the study than native-born ($M = 2.31$) ($t(81) = -2.82, p = .006$).

closer time intervals. Third, this study relies on data collected from maternal report. Ideally, measures of mother-child interaction and child externalizing behavior would be collected through multiple sources to reduce common-source bias. Fourth, measures of mood and self-esteem were not available in the current data, limiting my ability to compare the results directly with those of previous research. However, I was able to examine the relationship between system-justifying beliefs and a clinically-relevant manifestation of psychological distress. Fifth, the precision of the estimates and power to detect relationships in multigroup analyses may be reduced due to the small sample size for racial/ethnic subgroups. Finally, this study focused on mothers and children in early childhood and should not be generalized to other developmental stages.

Despite these limitations, this study provides important initial evidence about the role of system justification in the lives of low-income racial/ethnic minority and immigrant families. I demonstrate that mothers' motivations to justify and legitimize the system are particularly salient for members of immigrant groups. Moreover, I show that they play an important role in mothers' psychological and emotional lives, acting as a coping mechanism in response to fluctuations in anxiety and depression. These results shed light on the previously established cross-sectional relationship between system justification and mental health among disadvantaged groups, providing longitudinal evidence that variations in mental health may drive differences in system justification. They also suggest that system justification may not be a particularly effective coping mechanism for members of these groups, as it does not lead to later reductions in distress. The intent of this study was also to incorporate the social-psychological theory of system justification into scholarly work concerned with child development among immigrant, minority and low-income families. I demonstrate that system justification may indeed have important positive consequences for early child externalizing behavior in these groups. More research is needed in order to more fully understand the role system-justifying tendencies play in the lives of disadvantaged families and their children. I hope this research will serve as a foundation for continued inquiry in this area.

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Figure 2.

Bivariate cross-lagged latent growth for system justification and psychological distress. For ease of presentation, correlations between within-wave indicator residuals specified but not shown. Standardized coefficients are in parentheses; all other parameters unstandardized: [†] $p < .10$; * $p < .05$; ** $p < .01$; significant paths are in bold.

Figure 3.

Bivariate cross-lagged latent growth for system justification and psychological distress with child externalizing behavior. For ease of presentation, correlations between within-wave indicator residuals and latent parameters are specified but not shown. Standardized coefficients are in parentheses; all other parameters unstandardized: † $p < .10$; * $p < .05$; ** $p < .01$; significant paths are in bold.

Table 1

Descriptive Statistics and Bivariate Correlations for Study Variables

	Mean	SD	N	1	2	3	4	5	6	7
1. System justification (14m)	2.50	0.43	197	1.00						
2. System justification (24m)	2.46	0.46	193	0.59*	1.00					
3. System justification (36m)	2.38	0.47	190	0.50*	0.60*	1.00				
4. Psychological distress (14m)	2.04	0.72	201	-0.09	0.04	-0.13	1.00			
5. Psychological distress (24m)	1.94	0.70	196	-0.06	0.11	-0.04	0.66*	1.00		
6. Psychological distress (36m)	1.99	0.74	187	-0.06	0.07	-0.09	0.58*	0.58*	1.00	
7. Externalizing behavior (36m)	2.86	0.98	191	-0.17*	0.18*	-0.22*	0.28*	0.16*	0.36*	1.00

Table 2

Fit Statistics for Primary Study Models

Model	CFI	TLI	RMSEA (95% CI)	SRMR	χ^2	df
System justification						
Latent mean	.923	.942	.112 (.058; .172)	.127	15.80**	4
Latent growth	.997	.992	.041 (.000; .184)	.019	1.40	1
Autoregressive	.954	.966	.086 (.026; .141)	.056	10.99*	4
Latent growth with race/ethnicity	.973	.918	.072 (.000; .152)	.027	7.42 [†]	3
Psychological Distress						
Latent mean	.993	.995	.035 (.000; .109)	.043	5.19	4
Latent growth	.990	.970	.088 (.000; .215)	.025	2.84	1
Autoregressive	.912	.934	.129 (.077; .188)	.066	20.02***	4
Latent mean with race/ethnicity	1.000	1.000	.000 (.000; .066)	.032	7.982	8
Bivariate latent growth	.998	.998	.014 (.000; .064)	.051	15.57	15
Bivariate cross-lagged latent growth	1.000	1.018	.000 (.000; .041)	.054	6.68	11
Child externalizing behavior	.993	.990	.028 (.000; .071)	.052	16.54	14
Child externalizing behavior with covariates	.960	.934	.036 (.000; .058)	.041	67.08	51

[†]
 $p < .10$;*
 $p < .05$;**
 $p < .01$;***
 $p < .001$