Title
Prospective Relations of Childhood Parenting Styles to Adolescents' Psychological Adjustment in Chinese American Immigrant Families: A Ten-Year Longitudinal Study

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Prospective Relations of Childhood Parenting Styles to Adolescents' Psychological Adjustment in Chinese American Immigrant Families: A Ten-Year Longitudinal Study

By

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Abstract

Prospective Relations of Childhood Parenting Styles to Adolescents' Psychological Adjustment in Chinese American Immigrant Families: A Ten-Year Longitudinal Study

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Beyond the normative escalation of adjustment challenges in adolescence, immigrant parents and youth also face acculturative challenges that can negatively impact parenting and mental health. Many existing interventions to address the challenges of adolescence capitalize on knowledge of parent-child dynamics primarily studied within non-immigrant, white families. The cultural relevance of these interventions is hampered by our limited understanding of the long-term relations between parenting and youth mental health in immigrant families, and how these factors unfold across time. Furthermore, more research is needed to understand how parents' and youth's perceptions of mental health symptoms align and differ among immigrant families.

The current study aimed to address this gap by examining longitudinal relations between childhood parenting styles (1^{st} – 3^{rd} grade) and adolescent (9^{th} -12^{th} grade) internalizing and externalizing issues in a group of Chinese American immigrant families. The study utilized the first and third waves (approximately 10 years apart) of a longitudinal study of Chinese American immigrant parents and children in the Bay Area of California (Wave 1: N = 258, M age = 7.4 , SD = .7; Wave 3: N = 162, M age = 16.7 , SD = .7).

In Aim 1, I explored whether differences emerged between parent and youth report of parenting styles and adjustment at both waves. In Aim 2, I examined whether childhood parenting styles predicted adolescent adjustment. Parent and youth report of authoritative and authoritarian parenting were measured at both waves using the Parenting Styles and Dimensions Questionnaire (PSDQ). Parent report of youth adjustment was measured at both waves using the Child Behavior Checklist (CBCL). Youth report of adjustment was measured at Wave 1 using the Behavior Problem Index (BPI), and at Wave 3 using the Youth Self Report (YSR).

Regarding Aim 1, results indicated that parent report of authoritarian parenting was higher than youth report at both waves. Differences between reporters on authoritarian parenting were non-significant. Comparing parent and youth report across subscales of authoritative and authoritarian parenting revealed significant correlations only for Wave 3 authoritative parenting (warmth r = .29, reasoning/induction r = .24, democratic participation r = .25). While parent and youth report of internalizing and externalizing T-scores were positively correlated at Wave 3, youth-reported maladjustment was significantly higher across both adjustment dimensions.

Regarding Aim 2, separate path models were used to test longitudinal relations between parenting styles and adjustment across every combination of reporters given non-significant factor loadings in measurement models. Controlling for Wave 1 adjustment, youth-reported authoritative parenting had a negative path to Wave 3 parent-reported externalizing issues reported in raw scores. However, this path became non-significant after adjusting for concurrent relations between Wave 3 parenting and adjustment. Additionally, in this more stringent model authoritarian parenting emerged as a significant predictor of externalizing problems. Controlling for Wave 1 adjustment, youth-reported authoritative parenting had a negative path to externalizing problems, and authoritarian parenting had a positive path to externalizing problems. After making similar stringent adjustments for concurrent relations, the positive path from authoritarian parenting to externalizing problems remained significant.

In summary childhood authoritarian parenting emerged as a predictor of adolescent externalizing issues. This study adds to our understanding that Chinese American immigrant parents and children likely view parenting behaviors and mental health from different perspectives. It also can contribute to culturally informed interventions that may be able to better address communication within the family.

Executive Summary

The emergence and escalation of mental health challenges during adolescence presents a window to explore how parenting experienced in childhood may shape individuals' long-term emotional health. Adolescence is characterized by significant changes in biology, family relationships, peer interactions, and identity development (Steinberg & Morris, 2001). During this time, it can be particularly challenging for parents to use supportive parenting and maintain positive parent-adolescent relationships due to normative increases in parent-youth conflict (Laursen & Collins, 2009). Although adolescents are increasingly reliant on social support from peers, parents remain important proximal socializing agents (Smetana et al., 2006). The need to understand how adolescents' psychological adjustment is influenced by early parenting in diverse sociocultural contexts has been identified as an area for further study (Brown & Bakken, 2011). In particular, immigrant families face challenges such as acculturative stress and perceived discrimination, which can shape adolescents' adjustment through its impact on parenting practices (Hou et al., 2017; Juang et al., 2018, Lee et al., 2014). The present study utilized a socioeconomically heterogenous sample of Chinese American immigrant families living in the San Francisco Bay Area to test prospective linkages between childhood parenting styles and adolescents' psychological adjustment.

Despite the growing number of immigrants in the U.S., there have been few longitudinal studies examining the relations between childhood parenting styles and the mental health adjustment of immigrant youth (for examples see Carlo et al., 2018; Lorenzo-Blanco et al., 2016). Immigrant youth are defined as those who are either foreign-born themselves, or born in the U.S. and have at least one foreign-born parent. The share of immigrants in the U.S. population has increased from 4.7% in 1970 to 13.7% in 2019 (Migration Policy Institute, 2019). Nevertheless, immigrant youth are not well-represented in psychological research, in which research participants from the WEIRD (Western, educated, industrialized, rich, and democratic) populations are oversampled (Henrich et al., 2010). Much of what we consider as foundational knowledge in the fields of child development and developmental psychopathology is biased toward WEIRD populations. Our understanding of how cultural variations in parenting and socialization influence the mental health of immigrant youth is lacking (Causadias, 2013; Nielsen et al., 2017).

To address this important gap, the present study focused on the particular sociocultural context of Chinese immigrant families living in the Bay Area of California. California represents a rich geographic area to study the within group diversity among Chinese American immigrants, as 32% of Chinese immigrants in the U.S. reside in this state (Echeverria-Estrada & Batalova, 2020). The number of Chinese immigrants to the U.S. is growing rapidly. From 2000 to 2018, the population of U.S. immigrants from China more than doubled (inclusive of immigrants from mainland China, Hong Kong, and Macau), reaching nearly 2.5 million (5.5% of the total foreign-born population). Furthermore, Chinese immigration continues to grow and in 2018 the number of new immigrants from China exceeded those from any other country, including Mexico. (Echeverria-Estrada & Batalova, 2020). Chinese immigrants are a diverse, heterogenous group. On the one hand, compared to other foreign-born populations in the U.S., they tend to have overall higher levels of education and household income (Echeverria-Estrada & Batalova, 2020). On the other hand, a significant portion (16.7%) of all foreign-born Chinese immigrants in the U.S. live in poverty (Hernández & Napierala, 2012; López et al., 2017). This heterogeneity

provides opportunities to examine the unique relations of different socio-cultural factors (e.g., socioeconomic status, acculturation or cultural orientations) to parenting and adolescent adjustment. Indeed, prior studies using childhood data from the same sample of immigrant families as the present study have shown that socio-cultural factors, such as household density, cultural orientation, and neighborhood composition, are significantly related to parent-child conflict (Chung et al., 2020), parenting styles (Kho et al., 2019), and psychological adjustment (Lee et al., 2014).

To my knowledge, there has been no longitudinal study following youth of Chinese immigrant families from childhood through adolescence. The present study seeks to fill this gap by examining parenting experienced in childhood as a long-term protective or risk factor predicting the development of internalizing and externalizing issues among Chinese American adolescents. Furthermore, I examined whether parenting styles among Chinese immigrant parents function as a variable risk/protective factor. Variable risk and protective factors are defined as those that change across the course of development, rather than remaining stable (Compas & Reeslund, 2009). Parenting styles, particularly among immigrant parents, are likely to evolve with continued exposure to host cultural parenting practices (Ho, 2014) and can therefore be considered as a variable risk/protective factor. Finally, I examined the degree to which the relations between parenting styles and youth psychological adjustment varied by informants (e.g., parent or youth) of parenting styles and psychological adjustment. Prior research has established that parents and adolescents often have different views of parenting and adjustment (Achenbach et al., 1987) These differences between reporters may be especially relevant for immigrant families as parent-child acculturation gaps have been related to increased child psychological adjustment issues (Chen, Hua et al., 2014; Lui, 2015). The overall goal of the present study is to contribute to our understanding of how childhood parenting shapes adolescent psychological adjustment in the sociocultural context of Chinese American immigrant families.

Literature Review

Developmental Trends in Psychological Adjustment

The validity of assessing psychological adjustment across youth from diverse cultural backgrounds is well-established (Achenbach et al., 2012). Furthermore, many studies have established cross-cultural trends in the development of internalizing and externalizing issues. For example, a study by Crijnen and colleagues (1997) spanned twelve countries and found common trends in adjustment across adolescents, namely: 1) decreased mean levels of externalizing issues as children age and 2) increased mean levels of internalizing issues as children age. With regard to gender, Crijnen et al. (1997) found an increased risk for the development of externalizing issues among males, and an increased risk for the development of internalizing issues among females. Despite this overall decrease in mean levels of externalizing issues from childhood to adolescence, there is strong evidence of rank-order stability in externalizing behaviors: from early signs in childhood (i.e., aggression, impulsivity, and oppositionality), to the escalation of these issues in adolescence (Bagwell et al., 2001; Loeber et al., 2009). The developmental cascades model proposed by Masten et al. (2005) provides a helpful mechanism for understanding this rank-order stability in externalizing issues across time. This model proposes that childhood externalizing challenges cascade into reduced academic competence and achievement, challenges with peer relations, increased anxiety and depression, and overall

elevated mental health challenges in adolescence and young adulthood. This theory suggests the importance of examining both externalizing and internalizing broadband categories of adjustment across time, as they are mutually informative. Conversely, internalizing issues have been shown to increase in adolescence, with females at particular risk for the development of depression and anxiety (Cohen et al., 1993; Martel, 2013). These increases in internalizing issues among adolescent females can be quite high; Hankin et al (1998) found that rates of depression doubled among females from ages 15 to 18 years.

Psychological Adjustment among Native Chinese or Chinese Immigrant Adolescents

Differences in Adjustment Issues Relative to White Peers

There are mixed findings regarding the occurrence of externalizing and internalizing issues among native Chinese and Chinese immigrant adolescents compared to white American peers. To further complicate the issue, the relative frequency of psychological adjustment issues among this group compared to their white peers varies based on the reporter surveyed. The following review compares white and Chinese/Chinese American parent reports, then youth reports, of psychological adjustment issues.

To my knowledge, there is no definitive review of the relative occurrence of parent reports of psychological adjustment issues between Chinese and Chinese immigrant youth and their white, American counterparts. Some empirical studies have found similar levels of reported adjustment issues across both groups of adolescents, with slightly higher levels of aggressive behavior reported by mainly white American parents (Weine et al., 1995). However, other studies have found that Chinese parents reported lower levels of total adjustment issues compared to parents from other countries, including America (Liu et al., 1999; Tepper et al., 2008). There are even fewer studies specifically addressing the occurrence of these issues among Chinese American immigrant adolescents. In one of the few existing studies, Chang and colleagues (1995) found that Chinese immigrant parents reported lower adolescent externalizing and internalizing issues compared to norms derived from U.S. parents. In particular, Chang et al. (1995) found that, compared to U.S. norms, Chinese immigrant parents reported lower levels of anxiety/depression among girls and lower levels of aggression among both boys and girls. One possible reason for these mixed findings may be socio-economic and socio-demographic diversity among the broad geographic regions in China sampled in the studies reviewed above (Shandong province: Liu et al., 1999 and Tepper et al., 2008; Fujian province: Weine et al., 1995). Although the present study does not consider parents' province of origin within mainland China, the vast majority of families recruited spoke Cantonese. This language is commonly spoken in Hong Kong and the southern province of Guangdong, as well as other common areas of origin for Chinese immigrant families in the Bay Area of California. Overall, the available evidence indicates that when parents are surveyed, Chinese and Chinese immigrant parents may tend to endorse fewer psychological adjustment issues among their children compared to white American norms. However, it remains unresolved whether this pattern reflects lower levels of objectively measured emotional and behavioral issues among this population, or a difference in perceptions among Chinese and Chinese American families.

One piece of this puzzle can be addressed when youth are surveyed about their own adjustment issues. In fact, a different trend emerges. Similar to the studies on parent report

reviewed above, few epidemiological studies or meta-analyses of self-reported adjustment issues among Chinese American adolescents exists, necessitating a review of empirical findings. In a chapter addressing cultural differences in developmental psychopathology, Chen, Fu, et al. (2014) review evidence from multiple empirical studies finding that Asian youth from Chinese, Korean, Filipino, and Japanese backgrounds endorsed higher rates of internalizing issues compared to European American peers (Chen, Fu et al., 2014). They also reviewed empirical evidence indicating that youth from Asian backgrounds report relatively lower rates of aggressive and externalizing issues. Evidence from additional empirical studies indicates that Chinese (Tepper et al., 2008) and Chinese American adolescents (Chen, Haas et al., 2011) self-report higher levels depressive symptoms compared to white American youth, especially so for females. Collectively, these studies suggest that Chinese American adolescents maybe at increased risk for internalizing problems related to their racial/ethnic identity, and more so if they experience additional risk related to lower socioeconomic privilege.

Parent Versus Youth Report Among Chinese/Chinese American Families

There have been robust findings of differences between parent report and youth self-report of psychological adjustment issues (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005; Thurber & Sheehan 2012). Whereas available research suggests that these differences also exist in Chinese American families, very few studies directly addressing these reporter gaps exist. The studies reviewed below utilize parent (Child Behavior Checklist, CBCL), youth (Youth Self Report, YSR), and teacher (Teacher Report Form, TRF) versions of the same assessment instrument, allowing for comparison between reporters without measurement error attributed to different instruments. Tepper et al. (2008) examined Chinese parent, youth, and teacher report of adjustment issues and found that, according to parents and teachers, depressive issues among these Chinese adolescents were less prevalent than the American norm. Conversely, they found that youth self-reported high internalizing issues compared to their American peers. In a study with Chinese youth, Leung and colleagues (2006) found that parent and teacher reports were more effective at screening for externalizing issues, but youth self-report was more effective at screening for internalizing issues. This finding suggests that among Chinese families, adult caregivers may be more sensitive to youth externalizing issues while adolescents may be more attuned to less-observable internalizing issues.

In a study with white families, Hope et al. (1999) similarly found that adolescent self-report on the YSR contributed unique information in predicting the incidence of internalizing symptomatology reported in both youth and parent interviews. The majority of studies addressing ChineseAmerican adolescent adjustment collect ratings from only a single reporter (e.g., Chang et al., 1995; Hou et al., 2017; Kim, Chen et al., 2009; Kim, Chen et al., 2013). In view of this lack of empirical data comparing Chinese American immigrant parent and youth report of adjustment, likely trends are theorized based on reviewed findings from Chinese families. These findings suggest two potential differences between Chinese American immigrant parent and youth report of adjustment: 1) youth may report fewer externalizing issues compared to their parents, and 2) youth are likely to report higher levels of internalizing issues compared to parents. The present study seeks to address this gap in the literature.

Examining the reasons why parents and youth tend to have different views of youth adjustment could shed further light into how these differences may play out among Chinese

American families. De Los Reyes and Kazdin (2015) are among the first to propose a unifying theory to explain differences in psychological adjustment between reporters. They propose that parents are more likely to attribute children's behavior to intrinsic qualities of the child, whereas children are more likely to relate their behavior to environmental influences. Additionally, parents may be more likely to recall negative aspects of children's behavior, which further reinforces their perspective of their child's disposition. There is also a cultural element to consider, as cultural practices and values influence parent socialization of behavior, establish behavioral norms, and give meaning to behaviors (Chen, Fu et al., 2014). Among Chinese/Chinese American families, the cultural value of group harmony could particularly sensitize parents to children's displays of externalizing issues, such that self-regulation and reduced negative emotion expressivity are socialized from a young age (Chen & Zhou, 2019). This tendency could contribute to higher parent ratings of youth externalizing issues compared to youth ratings because these behaviors are likely to be negatively evaluated by parents. With regard to internalizing issues, this broad cultural value of group harmony promotes cultural display rules that encourage reduced emotional expressivity (Saw & Okazaki, 2010). Although Chinese American youth who fulfill these cultural norms may be rated as having lower levels of externalizing behaviors, suppression of anger and negative emotion have been shown to contribute to depressive symptoms and low perceived social support among Chinese American youth (Cheung & Park, 2010). Furthermore, if parental socialization goals are focused on group harmony, arguably more "Westernized" ideals of positive self-image may be deprioritized, and symptoms of depression and anxiety overlooked among this population (Chen & Li, 2000).

Defining Parenting Styles

In the literature, parenting has been primarily conceptualized in two ways: 1) as typologies of parenting styles along two orthogonal axes of warmth/acceptance and control/demandingness (Baumrind, 1996; Maccoby & Martin, 1983); and 2) as continuous dimensions that reflect specific parenting behaviors, such as parental control, autonomy support, sensitivity, etc. (Smetana et al., 2006). In the present study, I adopted both conceptualizations of parenting and used continuous measures of authoritative and authoritarian parenting because these measures have consistently been linked to adolescent adjustment (Baumrind, 1991; Steinberg, 2001). Specifically, authoritative parenting is characterized by high parental warmth, autonomy granting, behavioral monitoring, and the use of reasoning to explain limit setting and discipline. By contrast, authoritarian parenting is characterized by low parental warmth, high intrusive control that restricts autonomy, and frequent physical and/or verbal hostility (Baumrind, 1996; Maccoby & Martin, 1983).

Although a more detailed review of parenting studies from diverse cultural contexts is provided below, some researchers have argued that authoritative and authoritarian parenting styles (which were originally developed based on empirical studies of middle-class European American families, see Baumrind, 1991; Baumrind 1996) may fail to capture indigenous aspects of parenting in native or immigrant Chinese families (Chao, 1994). For example, some researchers emphasize the importance of differentiating whether the parental control exercised is interpreted as intrusive or didactic (Lim & Lim, 2003), or culturally specific expressions of parental warmth (Cheah et al., 2015). However, findings from multiple studies with Chinese and Chinese American families indicate that measures of authoritative and authoritarian parenting styles show satisfactory psychometric properties—and have been linked to children's adjustment and social

competence in expected directions (Chen, Hua et al., 2014; Chen, et al., 1997; Wu et al., 2002; Zhou, et al., 2008). Furthermore, using a person-centered approach, Kim, Wang, and colleagues (2013) conducted a latent profile analysis of parenting dimensions (including sub-dimensions of authoritative and authoritarian parenting styles and indigenous parenting dimensions such as shaming) among Chinese American adolescents. They identified a "supportive parenting" profile with high parental warmth and monitoring, which resembles the authoritative parenting style (Kim, Wang et al., 2013). As expected, the supportive parenting profile was related to positive academic and socio-emotional outcomes for Chinese American youth. In summary, these findings support the utility of using authoritative and authoritarian parenting styles to characterize Chinese American parenting and examining its relations to youth adjustment.

Parenting Styles: Stability over Time and Theoretical Links to Adjustment

Previous research examining stability and change in parenting styles from childhood to adolescence suggests that whereas specific parenting behaviors may change over time, global parenting styles stay relatively stable over time (Baumrind 2005; Moilanen et al., 2015; Zhang et al., 2017). In this literature, parenting styles are framed as reflecting the general patterns of parental behaviors or socialization practices in service of individual and culturally informed goals. Thus, although specific parenting practices may shift over time to accommodate children's developmental changes, overall parenting styles remain largely stable as they are rooted in parents' deep-seated values (Baumrind, 2005; McNally et al., 1991). Consistent with this perspective, in a four-year longitudinal study spanning the middle school years, Barber et al. (2005) found that mean levels of certain parenting behaviors, such as physical affection and limit setting, decreased as children entered adolescence. In contrast, mean levels of most supportive parenting behaviors, such as acceptance and knowledge/monitoring, remained stable over time.

The rank-order stability of parenting style has also been examined. In a study of adolescents between the ages of 11 and 16, Moilanen et al. (2015) found significant rank-order stability in authoritative and authoritarian parenting over the course of one year. Importantly, the majority of participants were white and non-immigrant. With African American families, Forehand and Jones (2002) found that dimensions of parenting related to authoritative parenting style, monitoring, and warmth, showed significant and moderate rank-order stability across time. Zhang et al. (2017) proposed another way to explore stability in parenting by examining changes in group membership of types of parenting styles. They found that among Chinese families, stability of membership within a certain parenting style was moderate to substantial over the course of four years of adolescence, with group membership in the authoritarian parenting style the most subject to change.

Although research on longitudinal changes in parenting styles among immigrant families is limited, findings suggest that socio-cultural factors might contribute to greater changes in parenting styles in immigrant families over time compared to non-immigrant families. First, that acculturation gaps between immigrant parents and children can lead to unsupportive parenting practices, with negative implications for adolescent adjustment (Kim, Chen et al., 2013). Second, as immigrants' parenting self-efficacy increases, so does their use of supportive parenting practices (Dumka et al., 2010). Third, a prior study with Latino immigrant parents found that as parental acculturation increased, parents endorsed promoting more youth independence and less parental authority (Roche et al., 2014). Taken in summary, these findings suggest that one might

expect a decrease increase in parents' use of controlling and unsupportive practices as parents gain higher parenting self-efficacy, become increasingly acculturated, and inter-generational acculturation gaps shrink, despite the existence of individual differences.

In sum, the literature reviewed above indicates that parenting styles are at least moderately stable across the transition from childhood to adolescence. Thus, it is reasonable to expect that parenting styles in childhood can shape and predict adolescents' psychological adjustment, partly through early socialization influences and partly through the continuing effects of parenting in adolescence. Indeed, longitudinal studies have found that early childhood experiences related to secure attachment, responsive parenting, self-regulation, and peer social competence predicted socio-emotional competence in adolescence (Ahmad & Hinshaw, 2017; Masten & Coatsworth, 1998; Teo et al., 1996). Of course, in biological families, parents and children share not only socialization environments, but also genes; only genetically informed investigations can begin to disentangle socialization from heritable influences (see Sellers et al., 2021 for an example). For a specific example of this type of study, consider Jaffee (2017), who demonstrated that while maltreatment has low heritability estimates (i.e., lower genetic influences), it strongly predicts later child behavior.

One way in which early parenting styles may influence later adjustment is through shaping the parent-child relationship. Parenting styles have long term implications for the emotional climate in the parent-child relationship (Darling & Steinberg, 1993; Steinberg, 2001). Parent-child relationships themselves have been shown to be relatively stable across the transition from childhood to adolescence (Bornstein & Putnick, 2021). From this perspective, it is not the specific parenting practices themselves, such as parental warmth or control, that build youth competence, but the meaning attributed to such behaviors (i.e., the *how*, not just the *what* of parental actions). Importantly, it is posited that the long-lasting emotional climate in the family, related in part to parenting styles, that has the strongest potential to function as a risk or protective process in shaping adolescents' long-term adjustment and competence (Baumrind 1991; Gest et al., 1993; Masten et al., 1999).

The lack of longitudinal research to examine the long-term relations between parenting and youth adjustment among families of diverse racial, ethnic, and socioeconomic backgrounds has been noted as a gap in the literature (Lamborn et al., 1996; Smetana et al., 2003). Studies of Chinese immigrant families have found concurrent or short-term longitudinal relations between parenting styles and children's psychological adjustment during preschool (Cheah et al., 2009), middle childhood (Chen, Hua et al., 2014; Kho et al., 2019), and adolescence (Kim et al., 2013). However, to my knowledge, no studies have tested the long-term relation of parenting styles to child adjustment across the developmental transition of childhood to adolescence in Chinese immigrant families. The present study seeks to contribute to the literature by examining whether authoritative and authoritarian parenting styles early in childhood continue to predict psychological adjustment into adolescence. Below I review the literature on the specific links of authoritative and authoritative parenting to adolescent adjustment, and discuss cultural considerations for these parenting style

Relations of Authoritative Parenting to Adolescent Adjustment

There are a number of theorized pathways by which authoritative parenting promotes positive adolescent adjustment (see Figure 1 for a conceptual model on links between parenting styles and adjustment). One is through the development of self-regulatory skills in childhood. These skills are related in adolescence to prosocial abilities, empathy, positive peer relationships, and reduced behavior issues (Miklikowska et al., 2011; Olson et al., 2005; Padilla-Walker & Christensen, 2011; Tiberio et al., 2016). Second, authoritative parenting can support children's autonomy and self-esteem development, and promote positive family relationships, which are protective factors for the development of internalizing problems (Crane et al., 2005; Liem et al., 2010). These pathways are interrelated, as improved self-regulation allows for better management of negative emotions, which is also related to reduced internalizing (Hopkins et al., 2020) and externalizing problems (Zhou et al., 2008). Both theories indicate that authoritative parenting consistently incorporates elements of limit-setting and warmth, while avoiding psychological control. These practices allow parents to navigate normative conflict without resorting to coercion and build strong parent-child relationships that are protective against adjustment difficulties in adolescence (Laursen & Hafen, 2010).

Consistent with the theories reviewed above, there is empirical evidence supporting the link between early authoritative parenting and later positive adjustment, while statistically adjusting for early levels of adjustment. Two meta-analyses by Pinquart (2017a, 2017b) revealed that authoritative parenting was prospectively linked to declines in internalizing and externalizing symptoms (*r*s = -.04 and -.07 respectively) among diverse families (Pinquart, 2017a reviewed 1,435 studies including 1,053,288 children and adolescents, 39.9% ethnic minority; Pinquart, 2017b reviewed 1,015 studies including 716,097 children and adolescents, 40.3% ethnic minority). Furthermore, researchers have found some specificity in the relations between different components of authoritative parenting and different domains of adjustment. For example, parental firmness has been linked to lower levels of externalizing symptoms (i.e., delinquency, substance use), and parental warmth and autonomy-granting relating to reductions in internalizing symptoms (i.e., anxiety, depression, self-esteem; Steinberg, 2001). Researchers investigating the mechanisms underlying the parenting-adjustment associations suggest that authoritative parenting may protect against depression by promoting self-esteem (Liem et al., 2010), and promote strong social skills through the development of empathy (Padilla-Walker & Christensen, 2011). Moreover, authoritative parenting is theorized to promote positive parent-child communication, which is key in adolescence during negotiations for increased freedom and autonomy (Baumrind, 1991). Despite this accumulation of evidence for the benefits of authoritative parenting, some research indicates that the cumulative and negative effects of unsupportive parenting may be more pronounced than the positive long-term influence of supportive parenting (Steinberg et al., 1994).

The generalizability of the protective benefits of authoritative parenting across diverse cultures remains an important area of investigation (Steinberg & Morris, 2001). The existing evidence on this topic points to the benefits of authoritative parenting cross-culturally (Pinquart & Kauser, 2018). In a large, cross-national study (1,298 adolescents, 12 cultural groups, ages 8-14 years), a et al. (2020a) found that early parental warmth deterred the development of internalizing symptoms in adolescence across most cultures surveyed. Behavioral control, another aspect associated with authoritative parenting, has also been associated with positive adjustment outcomes across cultures (Rothenberg et al., 2019). However, the relation between parental control and child outcome is likely to be curvilinear, such that an optimal level of

parental behavioral control is beneficial for child adjustment, whereases both under-control and over-control have detrimental implications for child development (Akcinar & Baydar, 2014).

In studies with Chinese families specifically, authoritative parenting has been associated with school-aged children's higher self-regulation (Eisenberg et al., 2009), and higher social and school adjustment (Chen et al., 1997). In a longitudinal study of families from mainland China, Chen, Liu et al. (2000) found that maternal warmth at age 11 was positively related to children's self-esteem two years later, covarying initial adjustment. There are some mixed findings as to whether parental warmth in childhood predicts long-term benefits for adjustment among Chinese families. In the cross-cultural study by Rothenberg et al. (2020b) reviewed above, early parental warmth was unrelated to changes in adolescent internalizing symptoms in the Chinese sample. In contrast, parental warmth longitudinally predicted trajectories of lower internalizing problems in the American sample. These findings raise the question of whether the long-term association between authoritative parenting and child adjustment can be found among Chinese American immigrant youths who engaged in both Chinese and American cultures. In the literature on Chinese American children, authoritative parenting has been related to improved regulation and decreased teacher-reported behavioral problems among preschoolers (Cheah et al., 2009) and positive adjustment among elementary aged children (Chen, Hua et al., 2014). However, few studies have employed longitudinal designs to examine this relationship into adolescence in immigrant samples. In a study with Latino immigrants, Carlo et al. (2018) found that authoritative parenting in childhood prospectively predicted better adolescent academic and prosocial outcomes.

In summary, there is strong evidence for the protective role of authoritative parenting in Chinese or Chinese immigrant children's development in childhood, although whether the benefits extend into adolescence remains untested. Although results from Pinquart's meta-analyses (2017a, 2017b) suggest that warmth is protective against externalizing and internalizing issues, the average time gap between study waves was relatively small (2.7 years in Pinquart 2017b). Fewer quantitative reviews have addressed parenting and adjustment over the time span from childhood to adolescence. The cross-cultural findings by Rothenberg et al. (2019; 2020a; 2020b) cover an age range more similar to the one considered in the present study (10-12 years and 8-14 years respectively), and indicate a longitudinal benefit of warmth and behavioral control. However, their findings also suggest that Chinese families may be an exception to this trend with regard to parental warmth. Therefore, Chinese American immigrant families are an especially interesting group to study because families are constructing meaning from both host (American) and heritage (Chinese) models of parent-child relationships. Additionally, the studies by Rothenberg and colleagues included dimensions of parenting related to authoritative parenting, such as warmth and control, but not authoritative parenting directly. Therefore, results are less directly applicable to the present study. Finally, the effect sizes for the associations between authoritative or supportive parenting and child adjustment are small and tend to be smaller than the associations between unsupportive parenting and adjustment, supporting the idea that the adverse impact of unsupportive parenting on child adjustment outweigh the benefit of supportive parenting (Steinberg et al., 1994). To my knowledge, no prior study has examined the relations between authoritative parenting in childhood to adolescent adjustment among Chinese immigrant families.

Relations between Authoritarian Parenting and Adolescent Adjustment

Authoritarian parenting is also theorized to influence adolescent adjustment, and children's self-regulation has been theorized to be a key mediating factor. Two dimensions of authoritarian parenting in particular, harsh discipline and aggressive behaviors, have been related to poor adjustment outcomes by impairing children's self-regulation (Olson et al., 2005; Tiberio et al., 2016). Additionally, social learning theory suggests that parental modelling of aggressive behavior directly fosters similar aggressive behaviors in their children (Bandura, 1978; Knutson et al., 2005). It is important to note that the relations between parenting and child behaviors are bidirectional. Early child temperament and behavioral challenges often evoke harsh or unsupportive parenting, which in turn contributes to further behavioral and emotional difficulties in a spiraling effect that extends into adolescence (Lee et al., 2013; Olson et al., 2011; Prior et al., 2001; Tiberio et al., 2016). Authoritarian parenting (characterized by high demandingness and low warmth) has been related to children's dysregulation of negative affect, lower self-esteem, and difficulties in forming peer relationships (Greenberg, 1999; Hopkins et al., 2020; Muris et al., 2003). Difficulties with peer relationships, in turn, can further contribute to other adjustment issues in adolescence (Ding et al., 2020).

Extensive empirical studies support the relation between authoritarian parenting and adjustment issues. The meta-analysis by Pinquart (2017a) found that early authoritarian parenting predicted heightened externalizing symptoms a few years later (r = .11), even after covarying initial adjustment. In a separate meta-analysis, Pinquart (2017b) found that although authoritarian parenting was concurrently related to heightened child internalizing issues (r = .14), this relation was not maintained longitudinally with inclusion of key covariates, like initial adjustment levels. In a retrospective self-report study, Muris et al., (2003) found that among adolescents, elevated psychopathology, especially externalizing issues, was related to high reported levels of parental over-control and rejection in childhood. Additional aspects of authoritarian parenting, such as low warmth, high rejection, and high hostility, have been related increased internalizing symptoms in adolescence (Rohner et al., 2005). Although the evidence reviewed links authoritarian parenting to general adjustment challenges, the links to externalizing issues are better supported across empirical, longitudinal studies.

Again, the generalizability of these findings to families from diverse cultures and backgrounds is an important consideration. In a study across nine countries, Rothenberg et al. (2019) employed a cross-lagged model and found that, across all countries, low warmth predicted adolescent externalizing problems. Conversely, they did not find evidence linking high behavioral control, another aspect of authoritarian parenting, to either kind of adjustment issue. In another analysis across nine countries, Lansford et al. (2018) found that increases in children's externalizing issues was strongly tied to authoritarian parenting.

Findings with Chinese/Chinese American families generally align with the research reviewed above. Authoritarian parenting has been especially linked to heightened externalizing problems, and also to some internalizing issues as well (Chen et al., 1997; Chen, Hua et al., 2014; Lee et al., 2014). For example, in a study with Chinese families, Wang and Liu (2018) demonstrated that, even controlling for child-driven effects, parents' use of physical punishment predicted children's externalizing behavior from ages 6-9 years. There is some evidence that authoritarian parenting is related to internalizing issues among Chinese families (Liu & Merritt, 2018; Tang et al., 2018), and that at a broad level, Chinese adolescents' depressive symptoms are more closely tied to their relationships with their parents than for their white American peers

(Greenberger et al., 2000). In support of this finding, among Chinese American families Kim, Chen et al. (2009) found that parents' harsh discipline and low warmth were linked to adolescent depression, loneliness, negative self-concept, and alienation from parents (Kim, Chen et al., 2009). These relations were also found longitudinally across the transition from middle school to high school (Kim, Chen et al., 2013). As discussed above, few studies longitudinally examine the relationship between childhood authoritarian parenting and adolescent adjustment issues among Chinese immigrant families.

Measuring Parenting Styles: Reporter Effects

There is robust evidence documenting low concordance between parent and adolescent report of parenting styles (Hou et al., 2020). These findings have been extended to studies with Chinese American families, with the potential for different interpretations of parental behaviors (Kim, Chen et al., 2009; Kim, Wang, et al., 2013). A meta-analysis examining these discrepancies found that parents tended to perceive parenting more positively than do adolescents (Hou et al. 2020). Furthermore, these differences were more pronounced in early adolescence (before age 14) compared to later adolescence. The meta-analysis and qualitative review by Hou et al. (2020) also found that adolescent report of parenting was more related to self-reported outcomes, while parent report was more related to parent report of adolescent outcomes. In an empirical study of Chinese American parenting, Kim, Chen et al., (2009) used confirmatory factor analysis to test the latent factor of parenting indicated by adolescent and parent report of communicative parenting behaviors (e.g., inductive reasoning and monitoring). However, the measurement model for parental warmth showed poor fit. These findings indicate that concordance between Chinese American parent and adolescent report of parenting may well vary by sub-domain. Kho et al., (2019) examined psychological control, another parenting construct, using childhood data from the same sample as in the present study. They found positive correlations between observed intrusive parenting and parent-reported intrusive parenting, providing some evidence of convergence between parent report and observed measures of parenting in Chinese American immigrant families. However, the correlation between parent- and child-reported intrusive parenting was not significant, indicating that reporters are probably tapping into different aspects of adjustment. Based on these findings, in the present study, I examined: 1) the degree of concordance between parent and youth report of authoritative and authoritarian parenting at two timepoints, and 2) how parent and youth reports of parenting relate to different reports of youth psychological adjustment.

Sociodemographic Factors that Might Confound Parenting-Youth Adjustment Relations

In studying immigrant families, it is important to consider the multitude of contextual and acculturative factors that influence parenting and adolescent adjustment. These factors should be considered as covariates when examining the links between parenting and child adjustment because they may confound their associations. There is strong evidence that exposure to adversity, including socioeconomic disadvantage, influences both the quality of parenting and adolescents' psychological adjustment (Gest, et al., 1993; White et al., 2012). These factors have been shown to relate to Chinese immigrant parents' wellbeing, expressions of warmth, and their children's adjustment (Cheah et al., 2015; Vu et al., 2019). Accordingly, the present study includes parent socioeconomic status, as measured by educational attainment and income, as covariates. Child demographic factors, such as age, generation status, and gender have also been

related to both parenting and adjustment; they are also included as covariates (Crijnen et al., 1997; Hoglund et al., 2015).

Aims

The present study examined the relations between parent and youth report of parenting styles and adjustment, and the longitudinal relationships between parenting in childhood (1st-3rd grade) and adolescent adjustment (9th-12th grade). This study had two primary research questions.

First, are parenting styles and adjustment best understood by combining information across parent and youth reporters? Or is the information from these reporters best understood as tapping into different aspects of parenting and psychological adjustment among Chinese American families? A few important sub-questions emerge from this question, including: a) Are there systematic differences between reporters on ratings of authoritative and authoritarian parenting styles? b) Are there systematic differences between reporters on ratings of youth internalizing and externalizing problems? and c) Does the pattern of concordance between reporters on ratings of youth psychological adjustment vary between childhood and adolescence?

Second, do authoritative and authoritarian parenting styles in childhood (1st-3rd grade) predict adjustment in adolescence (9th-12th grade) in a sample of Chinese American immigrant families, covarying early levels of adjustment difficulties? This study seeks to provide further insight into early family factors related to adaptive adjustment and psychopathology among Chinese American adolescents. Findings can contribute to culturally informed developmental psychopathology theory and the development and adaptation of culturally informed psychological interventions.

Aim 1: Examining Parent and Youth Report of Parenting and Adjustment in Chinese American Families

Based on past findings of discrepancies between parent and youth report of parenting (Hou et al., 2020), I hypothesize that there will be differences in parent and youth report of authoritative and authoritarian parenting at both waves. Specifically, given findings that parents are more likely to self-rate parenting positively (Hou et al., 2020), I hypothesize that parents will report higher levels of authoritative parenting than their offspring. Conversely, I hypothesize that youth will report higher levels of authoritarian parenting than parents. Finally, based on past findings from this sample (Kho et al., 2019) showing low concordance between parent and youth report of psychological control at Wave 2, I hypothesize similar low concordance at Waves 1 and 3 for authoritative and authoritarian parenting. Past findings with primarily white, non-immigrant families suggest stability in time of parenting styles (Barber et al., 2005, Baumrind, 1978; McNally et al., 1991). Therefore, I hypothesize that correlations between Wave 1 and Wave 3 authoritative and authoritarian parenting will be positive for both parent and youth report. With regard to mean level differences in parenting styles across time, research with immigrant families has found that parenting may become less authoritarian over time with continued acculturation (Dumka et al., 2010; Roche et al., 2014). Therefore, I hypothesize that mean levels of authoritarian parenting will decrease from Wave 1 to Wave 3 for both parent and youth report. I have no specific hypotheses regarding mean levels of authoritative parenting.

With regard to psychological adjustment, although some evidence exists that Chinese parents may be prone to underreport children's adjustment symptoms (Liu et al., 1999; Tepper et al., 2008), other evidence indicates that parents of adolescents with identified adjustment issues may be prone to over-reporting adolescent symptoms (Thurber & Sheehan, 2012). Additionally, studies have found that adolescent report of internalizing problems is often higher than parent report (Hope et al., 1999), whereas parent report may be a better tool for screening externalizing issues than youth report (Leung et al., 2006). In light of these past findings and given that this a non-clinical sample of Chinese American families, I hypothesize that: 1) Wave 3 adolescent report of internalizing issues will be higher than parent report, and 2) Wave 3 parent report of externalizing issues will be higher than youth report. I have no specific hypotheses comparing child and parent report of adjustment at Wave 1 given that different assessment instruments were used, and that young children and parents likely have different levels of insight into problem behavior at this age.

Aim 2: Examining Prospective Relations of Childhood Parenting Styles and Adolescent Adjustment Controlling for Childhood Adjustment

The second aim examines longitudinal relations between childhood parenting styles and adolescent adjustment, while controlling for initial levels of adjustment in childhood. I hypothesize that authoritative parenting at Wave 1 will be related to lower internalizing and externalizing issues at Wave 3, covarying Wave 1 levels of adjustment problems. Similarly, I hypothesize that authoritarian parenting at Wave 3 will be related to higher internalizing and externalizing issues at Wave 3, covarying Wave 1 levels of adjustment.

Method

Participants

The present study uses data from the Kids and Family Project (KFP), a three-wave longitudinal study on risk and protective factors of Chinese American children and their families living in the Bay Area of California. Data from the Wave 1 (collected between December 2007 through July 2009) and Wave 3 (collected between January 2017 through December 2018) are utilized in the present analyses. At Wave 1, 258 children (48% girls, 76% second generation) and their parents in Chinese American families were recruited in the Bay Area of San Francisco. Children were in first (48.8%), second (50.0%), and third (1.2%) grades with a mean age of 7.4 years at the time of first assessment (age range = 5.8-9.1 years, *SD* = 0.71). One parent from each family was invited to participate (81.8% mothers). Most participating parents were foreign-born (74.4% mainland China, 8.9% Hong Kong, 3.1% Taiwan, 13.6% other countries) and had resided in the United States for 11.8 years on average (*SD* = 7.6). Parents' age at Wave 1 ranged from 27.9 to 54.8 years (*M* age = 39.6, *SD* = 5.2). Regarding marital status, 94.1% of participating parents were married or living with a partner, 5.9% were single parents (e.g., divorced, widowed, or never married). Parents' years of education ranged from 5-20 years (*M* = 13.3 years, *SD* = 2.5), and the families' per capita income in the past year ranged from $625-$50,000 (*M* = $11,608, *SD* = 3.0). Of the participating parents, 63.1% were employed full-time, and of their non-participating partners/co-parents, 79.4% were employed full-time. Using U.S.

Census data, we compared the sample demographics with the demographics of Chinese American population in the four California counties in which families resided. The results indicated that our sample had a higher percentage of low-income families, a lower percentage of parents with a bachelor's degree or higher, and a lower percentage of employed parents (S. H. Chen, et al., 2014).

There was an approximate ten-year gap between Wave 1 and Wave 3, resulting in a lower than ideal retention rate. Of the 258 children who participated at Wave 1, either a parent or youth survey (or both) were obtained from 162 families (62.8% of the 258 families assessed at Wave 1). At Wave 3, most adolescents were in high school (9^{th} grade: 0.8%, 10^{th}: 29.3%, 11^{th}: 57.9%, 12^{th}: 11.3%) with an average age of 16.7 years (*SD* = 0.7). Attrition analyses were conducted to compare the 162 families who had data at both Wave 1 and Wave 3 with the 96 families who had data only at Wave 1 on key demographic variables (child age, gender, generation status, per capita income, parental education, parent age, and parents' lengths of stay in the U.S.). Results suggested that the children who dropped out at Wave 3 were slightly younger at Wave 1 (M = 7.2 years) compared to those who were retained (M = 7.5 years), $t(df = 255) = 2.42$, $p = .017$. No other significant differences were found. Thus, at least for the variables selected, attrition did not appear to introduce major biases into the sample.

Procedures

All study procedures were approved by the Committee for Protection of Human Research at the University of California, Berkeley. At Wave 1 (1st - 2^{nd} grade), a socioeconomically diverse sample of Chinese American immigrant families was recruited using a variety of strategies (e.g.., recruitment fairs in Asian or Chinese American communities, outreach at public and private schools with large Asian student populations, and referrals from Chinese American community organizations) to ensure inclusion of families from lower- and middle-socioeconomic backgrounds. All study procedures were approved by the Committee for Protection of Human Subject at the University of California, Berkeley. To determine eligibility for the study the following conditions were established: (a) the child was in first or second grade at the time of screening, (b) the child lived with at least one of her/his biological parents, (c) both biological parents identified as ethnic Chinese, (d) the child was either first generation (born outside the U.S.) or second generation (born in the U.S. with at least one foreign-born parent), and (e) both the parent and child were able to understand and speak English or Chinese (Mandarin or Cantonese). After interested parents completed a contact sheet, a bilingual interviewer conducted a phone interview with the parents to determine whether eligibility criteria were met. For eligible families, one parent and the target child participated in a 2.5-hour lab-based assessment administered by a team of bilingual graduate and undergraduate students. This assessment included: parent interview and questionnaires, child questionnaires, child psychological assessment, and parent-child interaction tasks. Parents and children completed questionnaires in their preferred language (94% Chinese and 7% Chinese, respectively). Parents were paid for their participation and children were given with small prizes at completion of the assessment. Although data were also collected from teachers at Wave 1, teacher data were not collected at Wave 3 and is therefore not included in the present analyses.

At Wave 2 (approximately two years after Wave 1) families were re-contacted and again completed a lab-based assessment consisting of parent questionnaires, child questionnaires, child psychological assessment, and parent-child interaction tasks. Of the 258 families who participated in Wave 1, 238 completed assessments at Wave 2 (retention rate = 92.2%). The present study utilized Wave 3 rather than Wave 2 data for examining adjustment outcomes given the emergence of many adjustment issues in adolescence (Steinberg & Morris, 2001) and the potential for overall low variability in adjustment at Wave 2 given the non-clinical sample.

At Wave 3 (9th-12th grade), newsletters containing highlights from the research study were mailed to families using addresses obtained from the second wave of the study. A phone call from trained bilingual research assistants followed newsletter distribution by two to three weeks. In cases for which contact information, including address and phone numbers, were no longer valid, research assistants contacted either one or both alternate contacts provided by the family at the first wave. These alternate contacts were family members or close family friends who were likely to have current contact information for the family. Alternate contacts were provided with brief information on the current study and requested to provide current contact information for the family. When alternate contacts indicated that they were unwilling to provide this information, they were requested to convey study contact information to the family in question. At the initial phone call with the family, research assistants determined whether families met eligibility criteria. To be eligible to participate at the third wave, parents had to a) reside with the adolescent at least 50% of the time and b) have regular contact with them. If families met eligibility criteria and indicated interest in learning more, research assistants verbally reviewed study procedures, confidentiality, risks/discomforts, and benefits.

If parents consented to participate, two pieces of information were either mailed or emailed (69.1% mail) to families in the language of their choice (82.7% of parents chose Chinese, all adolescent materials were in English): 1) a formal participation letter summarizing study information provided over the phone, and 2) parent and adolescent questionnaires. Parents were also requested to provide the adolescent's most recent school report card. Families received a reminder phone call or email, depending on their preferred contact method, two weeks after initial distribution, and a minimum of three subsequent reminders. Once questionnaires were received, compensation was mailed to families ($25 for parents, $15 for the short version of the youth survey, $25 for the longer version of the youth survey) and trained research assistants and graduate students ascertained whether either of two risk items ("History of deliberately harming self", "Talks about killing self") were indicated by either parent or adolescent report on the CBCL or YSR. If either risk item was indicated by either reporter, a trained graduate student or the principal investigator conducted a risk assessment and safety planning with the family.

In total, phone contact was attempted for 256 families (two families discontinued with the study in prior waves). Of these families, 218 (85.16%) were successfully contacted by phone and 215 met study eligibility criteria. Of these 215 eligible participants, 204 provided verbal consent for study participation (11 declined). Of the 204 families for whom a) were able to establish contact, b) met eligibility criteria, and c) consented to participate, 162 (62.79% of the original sample of 258 at Wave 1) provided at least one complete questionnaire either from parent or adolescent.

Measures

The present study included data collected from parent and youth questionnaires at Wave 1 and Wave 3. Questionnaires that had not previously been used with Chinese-speaking samples (i.e., Family Demographics and Migration History) were translated and back-translated by bilingual researchers using procedures recommended by Kim, Nair, Knight, Roosa, and Updegraff (2009). Questionnaires were also piloted with Chinese-speaking volunteers to ensure accurate translation. See Table 1 for descriptive statistics on study variables of interest.

Family Demographics and Migration History (Wave 1, Parent Report)

The Family Demographics and Migration History Questionnaire was adapted from a similar measure used in a longitudinal study of Mexican American immigrant families (Roosa et al., 2008). This questionnaire included demographic questions, such as maternal and paternal education and annual family income, and migration questions, such as parents' country of birth and length of stay in the U.S. Questions were modified to relate to the ethnicity and countries of origin appropriate for the present sample of Chinese American immigrant families.

Parenting Styles (Wave 1 and Wave 3, Parent and Youth Report)

At the first and third waves parents rated parenting styles using authoritative and authoritarian subscales of the Parenting Styles and Dimensions Questionnaire and children completed a child report version (PSDQ; Robinson et al., 1995). There is a Chinese version of the PSDQ that has been used with Chinese populations and shown satisfactory internal reliability (S. H. Chen et al., 2014; Wu et al., 2002; Zhou et al., 2008). For parent report, the authoritative subscale includes four subscales (27 items total): warmth/acceptance, reasoning/induction, easygoing/responsiveness, and encouragement of children's democratic participation in family decisions. The authoritarian subscale includes four subscales (19 items total): non-reasoning/punitive strategies, corporal punishment, verbal hostility, and directiveness. At Wave 3 one item on the Directiveness subscale ("I tell my child what to do") was negatively correlated with the rest of the scale and was accordingly dropped from the scale, resulting in 18 items in the authoritarian scale at this wave only. Child report on authoritative parenting styles includes three subscales (17 items total): warmth, reasoning/induction, and democratic participation. Child report on the authoritarian parenting includes three subscales (13 items total): non-reasoning/punitive strategies, corporal punishment, and verbal hostility.

At Wave 1 children were asked to report on their perception of parenting styles with regard to whichever parent was completing the parent questionnaire. At Wave 3 adolescent report of parenting was collected for each parent (mother, father) separately. For the present study only adolescent report of the participating parent at Wave 1 was included in order to address the current research question of changes in parenting styles over time with regard to the same parent. For each item both parents and children/adolescents rated how often they exhibited/experienced that behavior with their child/parent on a 5-point scale (1 = *Never* to 5 = *Always*). Composite scores for authoritative and authoritarian parenting were obtained by averaging raw scores of items across subscales. Resulting alpha reliabilities (determined using the covariance matrix as recommended for raw scores by Falk and Salvalei, 2011) for parent report of authoritative and authoritarian parenting were 0.90 and 0.80 at Wave 1 and .93 and .78

respectively at Wave 3. Alpha reliabilities for child report of authoritative and authoritarian parenting were 0.83 and 0.84 at Wave 1 and .95 and .86 at Wave 3.

Youth Adjustment (Wave 1 and Wave 3, Parent and Youth Report)

At Wave 1 and Wave 3 parents completed the internalizing (32 items) and externalizing (35 items) subscales on the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001). The Chinese language version of the CBCL and YSR has demonstrated good internal consistency and test–retest reliability in previous studies of native Chinese children (Leung et al., 2006; Liu et al., 1999; Liu et al., 2000; Tao et al., 2010; Zhou et al., 2008). At both waves, parents reported on how true each item was in relation to their child/adolescent over the last six months (0 = *Not true (as far as you know)*, 1 = *Somewhat or sometimes true*, 2 = *Very true or often true*). At Wave 1 children completed the internalizing (10 items) and externalizing (20 items) subscales on the Behavior Problem Index (BPI; National Longitudinal Surveys; Parcel & Menaghan, 1988; Peterson & Zill, 1986). The BPI has been shown to have good reliability among diverse child populations (Guttmannova et al., 2008; Zill et al., 1987). At Wave 3 adolescents completed the internalizing (31 items) and externalizing (32 items) subscales of the Youth Self Report (YSR; Achenbach & Rescorla, 2001). At Wave 3 item 105 on the YSR ("I use drugs for nonmedical purposes") was negatively correlated with the scale as a whole and was accordingly dropped, resulting in 31 items on the externalizing subscale. On both the BPI and YSR children and adolescents reported how often over the past six months the items described them on a 3-point scale (0 = *Not true*, 1 = *Somewhat or sometimes true*, 2 = *Very true or often true*).

Composite scores for parents were obtained by summing raw item scores within internalizing and externalizing subscales with respective resulting Wave 1 alphas of 0.84 and 0.87 and Wave 3 alphas of and 0.88 and 0.83. Composite scores for child-reported Wave 1 internalizing and externalizing subscales on the BPI were obtained by summing raw item scores across subscales with resulting alpha reliabilities of 0.48 and 0.76 respectively. Given low reliability with child self-report of internalizing symptoms at Wave 1, this scale was not included in final analyses (see Change to Original Analysis Plan section below). At Wave 3 composite scores for adolescent-reported internalizing and externalizing subscales on the YSR were obtained by summing raw item scores across subscales with resulting alpha reliabilities of 0.90 and 0.83 respectively. Finally, parent report on the CBCL at Waves 1 and 3 and adolescent report on the YSR at Wave 3 was converted to t-scores using validated gender and age norms of the questionnaire (Achenbach & Rescorla, 2001). The present study uses raw scores due to concerns over reduced variability given low base-rates of pathological problems in a non-clinical sample (Achenbach & Rescorla, 2001; Thurber & Sheehan, 2012). All analyses were also conducted with T-scores of adjustment as a supplementary and exploratory step.

Data Analysis Plan

Aim 1 Analysis Plan

My first study aim encompasses four hypotheses that relate to reporter differences in parenting and adjustment, and stability of parenting styles over time. For my *first hypothesis* regarding differences in parent and youth report of parenting, I evaluated descriptive statistics of

parent and youth report of parenting styles and used independent samples t-tests to evaluate the significant of these differences in mean levels. I also examined zero-order correlations between parent and youth report at both waves across subscales of authoritative (warmth, reasoning/induction, and democratic participation) and authoritarian parenting (non-reasoning/punitive, corporal punishment, and verbal hostility). For my *second hypothesis* regarding the stability of parenting over time, I employed two approaches: 1) examining rank-order stability in parenting styles within parent and youth reporters between Wave 1 and Wave 3, and 2) comparing mean levels of parenting styles within reporter from Wave 1 to Wave 3. I evaluated my *third hypothesis* regarding differences in t-scores parent and adolescent report of adjustment using independent samples t-tests. Raw score comparisons will not be conducted given differences in items between parent and youth forms. To evaluate my *fourth hypothesis* regarding the use of parent and youth report to create latent factors of parenting and adjustment, two measurement models were specified: one for parenting at Waves 1 and 3, and the other for adjustment at both waves (see Figure 2 and Figure 3). Initial data analysis indicated low alpha reliability (alpha = 0.48) for Wave 1 youth self-report of internalizing symptoms. Accordingly, my measurement model of adjustment omits Wave 1 internalizing given that it has only one indicator (parent report). In subsequent path models, youth report of externalizing at Wave 1 was utilized as the autoregressive path for youth report of both externalizing and internalizing symptoms at Wave 3.

Aim 2 Analysis Plan

My second aim centered on longitudinal relations between parenting in middle childhood and adolescent adjustment. If the measurement models tested in Aim 1 suggested that parent and youth report load significantly onto a latent factor and the models demonstrate good fit, then both reporters would be included in the same structural equation (SEM) model. However, if the measurement models indicated that parent and youth report should be considered separately, then different SEM models would be conducted for every combination of reporter: (P = parent report; Y = youth report): 1) Parenting (P) → Adjustment (P), 2) Parenting (P) → Adjustment (Y), 3) Parenting (Y) → Adjustment (Y), and 4) Parenting (Y) → Adjustment (P). All models were conducted with both adjustment raw scores and T-scores, resulting in eight total models. Hu and Bentler's (1999) recommended criteria for evaluating model fit were utilized, including Tucker Lewis index (*TLI)* ≥ .95, comparative fit index (*CFI*) ≥ .95, standardized root-mean-square residual (*SRMR*) ≤ .08, and root mean square error of approximation (*RMSEA*) ≤.06.

Results

Aim 1: Parent and Youth Report of Parenting and Adjustment

Differences in Reports of Parenting and Stability of Parenting

See Table 1 for descriptive statistics and Table 2 for all zero-order correlations. See Figure 5 and Figure 6 for visual representations of mean differences in parenting between and within parent reporters across Waves 1 and 3.

With regard to *differences between reporters*, parent report of authoritative parenting (Wave 1 M = 4.07, Wave 3 M = 3.91) was higher than youth report at Waves 1 and 3 (Wave 1

M = 3.11, Wave 3 *M* = 3.12). Welch's independent samples t-tests show that these differences between reporters were significant at both waves (Wave 1: $t(438.97) = 17.34$, $p < .001$; Wave 3: $t(229.34) = 8.15$, $p < .001$). Results of Welch's independent samples t-tests showed that parent and youth report of authoritarian parenting were not significantly different from each other at either wave: $t(401.87) = 0.27$, $p = 0.79$ for Wave 1; $t(230.51) = -0.68$, $p = 0.50$ for Wave 3. Zero-order correlations were computed for each of the three overlapping subscales of authoritative (warmth, reasoning/induction, and democratic participation) and authoritarian parenting (non-reasoning/punitive, corporal punishment, and verbal hostility) between parent and youth scales (see Table 3). Only the authoritative subscales at Wave 3 revealed significantly correlated: (warmth $r = .29$, reasoning/induction $r = .24$, democratic participation $r = .25$). At all other waves and across other subscales, there were no significant correlations between parent and youth report.

With regard to *rank-order stability of parenting across waves*, zero-order correlations showed positive correlations between Wave 1 and Wave 3 parent report of authoritative parenting ($r = .31$, $p < .01$), but not between Wave 1 and Wave 3 youth report of authoritative parenting ($r = .15$, $p > .05$). Positive correlations were found between Wave 1 and Wave 3 parent report of authoritarian parenting ($r = .38$, $p < .01$), and youth report of authoritarian parenting ($r = .17$, $p < .05$). It should be noted that these correlations represent rank order correlations over time, rather than stability or change in mean levels of parenting.

With regard to *mean-level differences in parenting across time*, descriptive analyses showed that parent report of authoritative parenting decreased slightly from Wave 1 to Wave 3, whereas youth report stayed relatively stable: *Ms* = 4.07 and 3.91 for parents, *Ms* = 3.11 and 3.12 for youth. Descriptive analyses showed that authoritarian parenting was higher at Wave 1 than at Wave 3 for both reporters: *Ms* = 2.15 and 1.81 for parents, *Ms* = 2.13 and 1.85 for youth. Paired sample t-tests explored the significance of these within reporter differences in mean levels of parenting between waves. Results showed significant mean-level differences in parent report of authoritative parenting, but not youth report: $t(152) = 2.89$, $p = .004$ for parents, $t(144) = 0.50$, $p = 0.62$ for youth. This finding suggests mean-level, within reporter stability only in youth report of authoritative parenting. The decrease in ratings of authoritarian parenting from Wave 1 to Wave 3 was significant for both parents and youth: $t(152) = 9.26$, $p < .001$ for parents, $t(143) = 3.65$, $p < .001$ for youth.

Differences in Reports of Adjustment

Comparison of parent and youth report of adjustment symptoms at Wave 1 was not possible because different instruments were used for parents and children. Examining differences between parent and youth report of adjustment at Wave 3, descriptive analyses suggest that youth-reported maladjustment measured in T-scores was higher than parent-reported T-scores for both internalizing (youth *M* = 52.9, parent *M* = 42.4) and externalizing issues (youth *M* = 47.5, parent *M* = 41.1; see figures 7 and 8). Welch's independent samples t-tests showed that these differences in youth and parent report of internalizing ($t(260.67) = -8.70$, $p < .001$) and externalizing issues ($t(264.39) = -6.98$, $p < .001$) were statistically significant. Parent and youth report of T-scores of internalizing ($r = .26$, $p < .01$) and externalizing problems ($r = .57$, $p < .01$) were positively correlated at Wave 3.

Measurement Models of Parenting and Adjustment

The final piece of Aim 1 was to determine whether it was possible to create latent factors of parenting and adjustment at Waves 1 and 3 including both parent and youth report as indicators (see Figures 2 and 3). To test the hypothesized relations, two measurement models were specified: one for parenting at Waves 1 and 3, and the other for adjustment at both waves. Attrition analyses did not show any relation between the patterns of missingness in the data and study variables, suggesting that the data can be considered as missing at random. Accordingly, missing data were handled using the full information maximum likelihood method. The models were tested in Mplus 8.1 (Muthén & Muthén, 2012-2021). Based on model fit criteria suggested by Hu and Bentler (1999), the measurement model for parenting fit the data adequately. However, the factor loadings of model-estimated indicators were nonsignificant for all hypothesized latent factors except for Wave 3 authoritative parenting, suggesting that parent and youth report for parenting did not converge to the same latent factor. Similarly, two measurement models for adjustment were created, one for raw scores and the other for t-scores. Both models showed adequate fit; however, factor loadings in both models were nonsignificant, indicating that parent and youth report of adjustment should be analyzed as separate outcomes in the subsequent models.

Aim 2: Prospective Relations of Childhood Parenting Styles to Adolescent Adjustment

Stringent Models Controlling for Wave 1 Adjustment

The measurement models tested in Aim 1 indicated that parent and youth report of parenting and adjustment should be considered separately. Therefore, every combination within and across reporters was tested in separate path models to examine longitudinal relations between childhood parenting styles and adolescent adjustment, while covarying initial adjustment (see Figure 4 for the general path model). In path models predicting Wave 3 parent report of adjustment, Wave 1 parent-reported adjustment was covaried. Similarly, in models predicting Wave 3 youth report of adjustment, Wave 1 youth-reported adjustment was covaried. In raw score models, adjustment scores were obtained by summing Likert ratings on the 0-2 scale across all items, while T-score models used established normed conversions that compare youths to peer of the same age and gender from a representative sample (see Achenbach & Rescorla, 2001 for more information on CBCL/YSR norms). In all models the following covariates were also added to the models: family Wave 1 family socioeconomic status (SES), youth age at Wave 1, youth generation status (i.e., first or second generation), and youth gender. Because youth report of internalizing issues at Wave 1 showed poor alpha reliability, Wave 1 youth-reported externalizing symptoms were used as a covariate for both Wave 3 youth-reported internalizing and externalizing symptoms.

All path models were tested in Mplus 8.1 (Muthén & Muthén, 2012-2021) and all models were either fully saturated or showed adequate fit based on criteria suggested by Hu and Bentler (1999). Paths from Wave 1 parenting to Wave 3 adjustment were significant in only a few models, and these models are presented subsequently and in Figures 8 through 11 (see Table 4 for full results from all path models). In the path model testing the links of youth report of parenting to parent report of adjustment (raw scores), authoritative parenting had a negative path to externalizing problems (Figure 9). In the path model testing the links of youth report of

parenting to parent report of adjustment (T-scores), authoritative parenting had a negative path to externalizing problems and authoritarian parenting had a positive path to externalizing problems (Figure 11).

Finally, for these two models with significant paths from Wave 1 parenting to Wave 3 adjustment, more stringent models were conducted to determine whether these unique paths remained significant after adjusting for concurrent relations between Wave 3 parenting and adjustment. For the model in Figure 8 with youth report of Wave 1 parenting predicting parent report of Wave 3 adjustment (raw scores), the negative path from authoritative parenting to externalizing problems was no longer significant (see Figure 10). Additionally, authoritarian parenting emerged as a significant predictor of externalizing problems. There was one significant concurrent negative relation between Wave 3 authoritative parenting and youth internalizing problems. For the model in Figure 9 with youth report of Wave 1 parenting predicting parent report of Wave 3 adjustment (t-scores), the positive path from authoritarian parenting to externalizing problems remained significant (see Figure 12). There was one significant concurrent negative relation between W3 authoritative parenting and W3 internalizing problems.

Exploratory Non-Stringent Models

Given the possibility that the autoregressive path from Wave 1 to Wave 3 adjustment was accounting for the majority of the variance in adjustment and masking the role of Wave 1 parenting, exploratory analyses with no prior hypotheses were conducted. Path models, referred to from this point as non-stringent models, examined relations between Wave 1 parenting and Wave 3 adjustment with the same covariates and iterations of models (across all combinations of reporters for raw score and t-scores), but without the autoregressive path for adjustment.

Among these non-stringent models, models with significant paths from Wave 1 parenting to Wave 3 adjustment are reviewed below (also depicted in Figures 13, 14, and 15). In the path models testing parent report of parenting and youth report of adjustment (both raw scores and t-scores), authoritarian parenting had positive paths to externalizing problems. In the path model testing parenting report of both parenting and adjustment (T-scores), authoritative parenting had a positive path to internalizing problems.

In summary, in stringent models controlling for Wave 1 adjustment, authoritative parenting in childhood was predictive of lower externalizing issues in adolescence in two path models. However, these significant paths were only true for a certain combination of reporters: youth report of Wave 1 parenting and parent report of Wave 3 adjustment. When more stringent models were run that also adjusted for Wave 3 concurrent associations between parenting and adjustment, these paths became non-significant, and childhood authoritarian parenting was predictive of externalizing issues in adolescence.

Discussion

Prior research on this topic has indicated that children's early experiences of attachment, parenting, and socio-emotional develop are related to their psychological adjustment in adolescence (Ahmad & Hinshaw, 2017; Masten & Coatswoth, 1998; Teo et al., 1996). Although these relations between early parenting styles and later child adjustment have been examined

with Chinese American youth in preschool and middle childhood (Cheah et al., 2009; Chen, Hua et al., 2014; Kho et al., 2019), to my knowledge no studies have addressed this question longitudinally from childhood into adolescence with this population. Existing studies indicate the importance of examining early predictors of psychological adjustment among Chinese and Chinese American adolescents (Chang et al., 1995; Chen & Li, 2000; Cheung & Park, 2010; Saw & Ukazaki, 2010). Finally, although differences between parent and youth report of parenting (Hou et al., 2020) and adjustment (De Los Reyes & Kazdin, 2005), more research is needed to better understand these reporter differences among Chinese American immigrant parents and youth (Tepper et al., 2008). To my knowledge, this is the first study to examine the longitudinal relations between childhood parenting styles and adolescent adjustment among Chinese American immigrant families, and to examine differences between parent and youth report of parenting and adjustment.

Summary of Main Findings

On average in this sample, and consistent with my hypothesis regarding *differences in reports of parenting styles*, parents reported higher use of authoritative parenting than youth during both middle childhood and adolescence. Contrary to my hypothesis, parents and youth showed no significant differences in their report of authoritarian parenting at both timepoints. Regarding *rank order stability in parenting styles within reporter*, parent report of both authoritative and authoritarian parenting was positively correlated over time, indicating consistency in families' rank orders on parenting over time. Only youth report of authoritarian parenting was positively correlated across timepoints, suggesting that rank order stability of youth-reported authoritative parenting may shift over time for this population. *At the mean level*, parents reported using more authoritative parenting in adolescence compared to middle childhood, whereas youth report of authoritative parenting was not significantly different across timepoints. Mean level ratings of authoritarian parenting for both parent and youth report decreased from childhood to adolescence. Although parent and youth report of adolescent adjustment issues was positively correlated, youth self-reported significantly more challenges with psychological adjustment, both internalizing and externalizing issues, than parents endorsed for their adolescents. Longitudinally, there is some evidence that authoritative parenting in middle childhood may be negatively predictive of externalizing issues in adolescence, although these paths varied by reporter and whether adjustment was measured in raw or T-scores. Additionally, when concurrent paths between adolescent parenting and adjustment were added to the models, authoritarian parenting in middle childhood emerged as a significant predictor of adolescent externalizing issues.

Aim 1: Parent and Youth Report of Parenting and Adjustment

Differences in Reports of Parenting

Consistent with my hypothesis and findings from a meta-analysis (Hou et al., 2020), parent report of authoritative parenting was significantly higher that youth report at both timepoints. Contrary to my hypothesis, there were no significant mean differences between parent and youth report of authoritarian parenting at either timepoint. To gain additional insight into concordance between parent and youth report of parenting, the present study also examined concordance across parenting style subscales. Positive, significant relations between parent and

youth report were only found on authoritative subscales (warmth, reasoning/induction, and democratic participation), and only in adolescence. Literature examining Chinese parenting suggests that authoritarian parenting may be less relevant for Asian families, as strictness may take the form of "training", rather than the harshness or dominance that may be more relevant for white, American families (Chao, 1994). Additionally, there is some evidence that while authoritative parenting is practiced among Chinese families, psychological control may be a more relevant parenting style than authoritarian parenting (Chan et al., 2009). Therefore, there may be less agreement within Chinese American families regarding what constitutes authoritarian parenting, especially as immigrants navigate multiple cultural conceptions of what it means to practice, or experience, authoritarian parenting. Prior evaluation of Chinese American parent and youth report of parenting also found that concordance varies based on subdomain of supportive parenting, with warmth showing the lowest concordance (Kim, Chen, et al., 2009). The present study found that although parent and youth ratings of authoritarian parenting were similar at the mean level, there was low agreement between reporters at the subscale level (e.g., non-reasoning/punitive, corporal punishment, and verbal hostility). In a prior study with the same sample at an earlier wave, Kho et al., (2019) also found low concordance between parent and youth report of intrusive parenting, another unsupportive parenting style. Similarly, in a study with the same sample Chung et al. (2020) found that parent and adolescents have different perspectives on the level of conflict they experience. Taken in conjunction, these findings suggest that Chinese American parents and youth may especially have difference views of unsupportive parenting. However, as children age into adolescence, and possibly as parent-child acculturation gaps lessen, there may be increased agreement in their views of warm and firm parenting (Kim et al., 2014; Kim, Chen et al., 2009; Kim, Chen et al., 2013).

Stability and Change in Parenting Styles

The stability of authoritative parenting was an exploratory aim. Parent report of authoritative parenting showed rank-order stability, while this was not true for youth report. This suggests youth views of these parenting practices may be more subject to change than their parents' views. In contrast, both parent and youth report of authoritarian parenting showed rank-order stability. Prior literature has found that global parenting styles are stable from childhood into adolescence, perhaps because they are related to deeply rooted values (McNally et al, 1991) and parent-child relationship quality, which has also been shown to be stable across this transition (Bornstein & Putnick, 2021). Given the findings of the present study, this stability may vary based on reporter with parent report higher in stability.

The hypothesis that mean levels of authoritarian parenting would decrease over time was supported in both parent and youth report. Prior studies with immigrant families have found that as parents continue to acculturate, they may endorse increasing independence for their children and display more supportive parenting practices (Dumka et al., 2010; Roche et al., 2014). A similar process may be unfolding with the present sample whereby Chinese American immigrant parents may decrease the degree to which they practice parenting low in warmth and high in control as they further acculturate and adopt more American values and parenting practices. Additionally, there is some evidence that among Chinese families, parental control may decrease as children progress through middle and high school (Chen et al., 2000).

Differences in Reports of Psychological Adjustment

I found that Chinese American adolescents endorsed more internalizing and externalizing issues than their parents. This finding is in line with prior literature that has found that Chinese and Chinese American parents may tend to underreport their children's adjustment problems, especially internalizing issues (Leung et al., 2006, Liu et al., 1999; Tepper et al., 2008). Studies of communication and conflict patterns in Chinese families suggest that cultural values around social desirability and saving face influence how openly Chinese parents may communicate about difficult issues (Zhang, 2007). This tendency could contribute to Chinese American parents underreporting adjustment issues among their adolescent children. This finding is in partial contrast to my initial hypothesis that youth would report high internalizing, but lower externalizing issues, compared to their parents. This is also in contrast to findings by Leung et al. (2006), that found that among Chinese families, youth likely underreported externalizing issues compared to parent and teacher report. The present findings highlight the important of collecting youth self-report of adjustment when working with Chinese American families.

Aim 2: Prospective Relations of Childhood Parenting Styles to Adolescent Adjustment

I had hypothesized that authoritative parenting at Wave 1 would be related to better internalizing and externalizing outcomes at Wave 3, while authoritarian parenting at Wave 1 would be related to poorer internalizing and externalizing outcomes at Wave 3. These hypotheses were partially supported. In two autoregressive path models (one with raw scores, the other with T-scores) covarying Wave 1 adjustment, authoritative parenting was negatively related to externalizing problems. These findings provided some initial evidence that authoritative parenting may serve a long-term protective function in the development of youth externalizing issues. However, when Wave 3 parenting was included in the model, the positive paths from Wave 1 authoritative parenting to Wave 3 externalizing issues were not maintained. In the most stringent models that covaried both Wave 3 parenting and stability in psychological adjustment, authoritarian parenting emerged as a risk factor for the development of externalizing problems. Previous work with Chinese families has indicated that authoritative parenting is negatively related, and authoritarian positively related, to changes in externalizing issues across a few years in childhood (Chen et al., 2000; Chen, Zhou et al., 2011). Concurrent findings with Chinese American families support these findings (Chen, Hua et al., 2014), but there are no longitudinal studies with these immigrant families that span the gap from childhood to adolescence. Present findings indicated that although there are likely to be protective effects of warm and firm authoritative parenting, these relations may not persist over long periods of time. On the other hand, authoritarian parenting that is high in control and low in warmth serves as a long-term risk factor for the development of externalizing problems, as has been seen in other studies (Bagwell et al., 2001; Loeber et al., 2009).

The null findings in the present study regarding linkages between childhood parenting and adolescent internalizing issues are consistent with prior research that has more often found these linkages with externalizing issues (Steinberg et al., 1994). In a review of six meta-analyses, Pinquart (2017b) found weak and inconsistent relationships between parenting styles and children's internalizing issues, when controlling for early adjustment issues. Additionally, the majority of the studies included in the meta-analyses failed to separate finding from concurrent and longitudinal studies. In his own meta-analysis, Pinquart (2017b; 1,015 studies included) found a a small longitudinal association between early authoritative parenting and later declines in internalizing issues (r = -.04); however, the power was much reduced as most studies

reviewed included parenting dimensions (i.e., warmth), rather than parenting styles (i.e., authoritative). Additionally, it is possible that the long-term protective benefits of authoritative parenting for internalizing symptoms may be less salient for Chinese American families. Rothenberg et al. (2020b) found that while early parental warmth functioned protectively against the development of internalizing issues for families across 11 countries. However, Chinese families were the only national group for whom this finding was not upheld, suggesting that parental warmth may function differently based on cultural and national identity. Finally, there is also strong evidence for high stability in adjustment issues (Rothenberg et al., 2019; Rothenberg et al., 2020b), which may result in limited variance left to be predicted by parenting-related factors.

These long-term relations between authoritarian parenting and child adjustment may persist because of the cyclical and escalating nature of negative parent-child interaction cycles. Prior work with the same sample suggests that intrusive parenting is evident in parent-child conflict discussions (Chung et al., 2020; Kho et al., 2019), with negative implications for children's internalizing and externalizing issues. Essentially, prolonged exposure to negative parenting may contribute to elevated externalizing problems in high school. It is especially interesting to find that this pattern holds true in a community sample of Chinese American immigrant families, as much of this research has been conducted among families in which either parents or children experience elevated adjustment symptoms (Compas et al., 2017).

Despite previous findings that authoritarian parenting may be linked to increased depression in Chinese children, (Liu & Merritt, 2018), the present study did not find unique relations between parenting and adolescent internalizing problems. One possible reason could be stability in ratings of internalizing problems over time. In all path models tested with autoregressive paths, the path from Wave 1 to Wave 3 internalizing was significant, but this was not the case in any model for externalizing problems. Therefore, there may be decreased variance in internalizing problems left to be predicted by family contextual factors compared to the variance in externalizing problems. High stability in adjustment issues has been found across multiple large-scale studies (Rothenberg et al., 2019; Rothenberg et al., 2020). This stability can complicate the search for early risk factors that may indicate who will go on develop more serious internalizing psychopathology in adolescence.

Relations between Adolescent Adjustment and Covariates

Family socioeconomic status at Wave 1 (mean of parents' education and family income) was positively related to Wave 3 adjustment, meaning that higher family SES at Wave 1 was related to increased levels of adolescent internalizing and externalizing problems at Wave 3. This potentially counterintuitive finding was maintained across both parent and youth report of adjustment and in all stringent path models, except for one. Some prior literature has found that socioeconomic disadvantage functions as a risk factor in the development of adjustment difficulties (Compas & Reeslund, 2009). However, the relation between family SES and acculturation may be influenced by acculturation processes in immigrant families. Along these lines, studies with Chinese American families have found that higher linguistic and cultural consonance between parents and children is associated with better child adjustment (Weaver & Kim, 2008). The likelihood that immigrant parents and children will share heritage cultural values and language proficiency is higher in families with first-generation children (born outside

the U.S.), and Chung et al. (2020) found that having first-generation children was associated with lower family SES in the same sample of families included in this study. Further supporting this link between lower family SES and improved adjustment, Chung et al. (2020) found that these families with first generation children tended to report lower levels of parent-child conflict. In this sense, the loss of heritage culture and greater parent-child acculturation dissonance can be considered a risk factor for youth adjustment in Chinese American immigrant families (Chen, Hua et al., 2014; Kim, Chen et al., 2013; Lui, 2015). Finally, the stresses association with migration, including housing challenges, downward social mobility and employment, and acculturative stress are well-demonstrated for Chinese American immigrants (Qin, 2008) and these core challenges may be more salient for parents than their children's mental health.

Youth gender emerged as a significant covariate in the stringent path models with youth report of adjustment measured in raw scores. Consistent with prior literature, adolescent self-report of internalizing problems was higher for females than for males (Chen, Zhou, et al., 2011; Cohen et al., 1993; Martel, 2013). Finally, youth generation status did not emerge as a significant covariate in any stringent model. In one non-stringent model with parent report of adjustment measured in raw scores, second-generation youth (those born in the U.S.) tended to have higher parent ratings of externalizing problems. This finding is consistent with prior literature, which has related larger gaps in parent-child American cultural orientation, more common with second-generation children, to worse youth adjustment outcomes (Kim, Chen et al., 2013).

Finally, the present study considered models with both adjustment raw scores and T-scores. The resulting models varied in their prospective relations with childhood parenting, although not in a consistent way. The use of raw scores has been advocated given the reduced variability and truncated range of t-scores (Achenbach & Rescorla, 2001; Thurber & Sheehan, 2012). Additionally, T-scores are based on norms for the CBCL and YSR, and therefore compare the Chinese American youth in the present sample to the general U.S. population of same-aged peers. The use of raw scores avoids this issue and examines differences in adjustment within the present sample of Chinese American youth in comparison to each other. Thus, models with adjustment raw scores and T-scores should be interpreted differently.

Limitations, Implications, and Future Directions

The present study has several limitations. First, although I utilized two waves of data to address this question of the early family context as a potential risk and/or protective factor, growth modeling with three or more waves of data would have allowed me to better determine how changes in parenting within the same family, and not at the mean level, were related to children's changes in adjustment. Second, the time span between Wave 1 and Wave 3 was approximately ten years, and the relations between early parenting and adjustment difficulties in adolescence are complex, with many intermediary processes. The present study only tested direct relations between childhood parenting and adolescence adjustment, and did not test for mediating mechanisms (e.g., emotion regulation, parent-child relationship). Utilizing Wave 2 data (collected approximately 2 years after Wave 1) to answer some of these questions about mediating or moderating processes would be an important next step in understanding how early parenting styles may, for example, influence peer relationships, which themselves has shown to be strongly related to adjustment in adolescence (Meza et al., 2016). Finally, as is common within longitudinal and developmental research, there is a constant tension between maintaining

the same measures across multiple waves of a study in order to better model change, while at the same time also adapting study measures to the developmental stage of the child. For example, in the present study the measure used to assess parenting styles included an item in the authoritarian directiveness subscale ("I tell my child what to do") that was negatively correlated with the rest of the items at Wave 3, but fit well with the rest of the scale at Wave 1. This pattern likely occurred because this item is more appropriate for parenting behaviors in childhood but less suited to the increasing autonomy and independence granted in adolescence. Similarly, on the CBCL one item ("Drinks alcohol") was negatively correlated with the rest of the scale at Wave 1, but was developmentally appropriate and fit with the rest of the scale at Wave 3. Finally, the present sample was recruited from the Bay Area of California, a metropolitan area with high cultural and ethnic diversity, which may limit the generalizability of findings from the current sample to other populations of Chinese American immigrants living in different sociocultural contexts.

Despite these limitations, the present study makes important contributions to the understanding of concordance (and differences) between parent and youth raters of parenting and psychological adjustment in Chinese American immigrant families. Because parenting is often targeted in interventions that address stressful parent-child interactions, it is important to understand how Chinese American immigrant parents and their children may be viewing parenting behaviors and mental health from different perspectives. Once these unique perspectives are better understood, interventions may be able to better address communication within the family and create a more positive family dynamic (Compas et al., 2017). Furthermore, although it has been suggested that authoritative and authoritarian parenting styles, developed in the Western academic and socio-cultural context, may not be relevant to Chinese and Chinese American immigrant families (Chao, 1994; Lim & Lim, 2003), this present study provides strong evidence that these parenting styles are related to child adjustment in this sample. Although there may be parenting styles particular to this population that are not rooted in the Western parenting literature, the protective role of authoritative parenting has been demonstrated in Chinese American immigrant families and merits further attention and study (Zhou et al., 2012).

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Table 1
Descriptive Statistics of Study Variables

	Items	*N*	*M*	*SD*	Min	Max	Alpha
W1 Authoritative (P)	27	255	4.07	0.48	2.00	4.93	0.90
W1 Authoritarian (P)	19	255	2.15	0.43	1.26	4.61	0.80
W1 Authoritative (Y)	17	257	3.11	0.75	1.35	4.88	0.83
W1 Authoritarian (Y)	13	257	2.13	0.78	1.00	4.69	0.84
W1 Internalizing raw (P)	32	218	3.61	4.21	0	26.00	0.84
W1 Internalizing T-scores (P)	32	218	45.42	9.70	33.00	75.00	--
W1 Externalizing raw (P)	34	230	4.70	5.11	0	21.00	0.87
W1 Externalizing T-scores (P)	34	230	46.85	9.69	33.00	69.00	--
W1 Internalizing raw (Y)	10	244	7.40	3.17	0	15.00	0.48
W1 Externalizing raw (Y)	20	245	12.94	6.04	0	32.00	0.76
W1 Externalizing T-scores (Y)	20	245	117.29	15.37	84	163	--
W3 Authoritative (P)	27	154	3.91	0.60	2.30	5.00	0.93
W3 Authoritarian (P)	18	154	1.81	0.41	1.00	3.06	0.78
W3 Authoritative (Y)	17	145	3.12	3.12	1.00	5.00	0.95
W3 Authoritarian (Y)	13	144	1.85	0.68	1.00	4.31	0.86
W3 Internalizing raw (P)	32	130	2.84	4.77	0	27.00	0.88
W3 Internalizing T-scores (P)	32	130	42.40	9.30	33	73.00	--
W3 Externalizing raw (P)	35	139	2.06	3.16	0	23.00	0.83
W3 Externalizing T-scores (P)	35	139	41.06	7.08	34.00	68.00	--
W3 Internalizing raw (Y)	31	134	12.30	8.54	0	37.00	0.90
W3 Internalizing T-scores (Y)	31	134	52.90	10.30	27.00	76.00	--
W3 Externalizing raw (Y)	31	134	7.75	5.47	0	36.00	0.83
W3 Externalizing T-scores (Y)	31	134	47.46	8.00	29.00	77.00	--

Notes. P = Parent report; Y = Youth report; W1 = Wave 1; W3 = Wave 3; W1 & W3 P-reported adjustment reported using CBCL (0-2 scale); W1 C-reported adjustment reported using BPI (0-2 scale); W3 C-reported adjustment reported using YSR (0-2 scale); Raw scores reported for internalizing and externalizing dimensions; Raw alpha reliability reported.

Table 2
Correlations among Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. W1Y.age																									
2. Y.gender	-.06																								
3. Y.gen.	-.06	-.06																							
4. Family SES	-.15*	-.04	.27**																						
5. W1P.Atv	-.11	.05	.12	.14*																					
6. W1P.Atn	-.05	.11	-.09	-.09	-.08																				
7. W1Y.Atv	-.07	.08	-.09	.04	.06	.12																			
8. W1Y.Atn	-.16**	.22**	-.09	-.05	.03	.11	.43**																		
9. W1P.Int	.04	-.08	-.03	-.09	-.25**	.27**	-.01	-.02																	
10. W1P.Int-t	.03	.07	-.06	-.09	-.26**	.30**	.00	.00	.94**																
11. W1P.Ext	-.05	.13	-.07	-.07	-.23**	.31**	.06	.03	.64**	.67**															
12. W1P.Ext-t	-.01	.09	-.06	-.06	-.23**	.30**	.07	.05	.64**	.69**	.95**														
13. W1Y.Ext	-.16*	.18**	.02	-.07	.01	.06	.19**	.39**	.08	.09	.08	.07													
14. W1Y.Ext-t	-.16*	.18**	.02	-.07	.01	.06	.19**	.39**	.08	.09	.08	.07	1.00**												
15. W3P.Atv	-.02	-.09	-.04	.20*	.31**	-.20*	.18*	.02	-.09	-.13	-.16	-.14	-.09	-.09											
16. W3P.Atn	-.02	.23**	.03	.04	-.04	.38**	-.01	.05	.11	.14	.24**	.19*	.20*	.20*	-.17*										
17. W3Y.Atv	.07	-.14	-.09	.00	.16	-.14	.15	-.14	.03	-.03	.00	.03	-.13	-.13	.27**	-.07									
18. W3Y.Atn	-.04	.08	.09	.17*	-.07	.04	.01	.17*	-.03	-.02	.09	.07	.05	.05	-.04	.17	-.24**								
19. W3P.Int	-.05	-.07	.13	.11	.00	.07	-.09	-.14	.31**	.26**	.18	.17	.15	.15	-.26**	.15	-.06	-.10							
20. W3P.Int-t	-.09	.08	.10	.13	.03	.11	-.06	-.11	.33**	.32**	.21*	.19*	.19*	.19*	-.23**	.22*	-.12	-.06	.91**						
21. W3P.Ext	-.10	.14	.13	.12	.11	.09	-.01	.03	-.06	-.06	.10	.07	.16	.16	-.26**	.20*	-.02	.09	.59**	.60**					
22. W3P.Ext-t	-.07	.15	.07	.14	.16	.08	.01	.07	-.01	.01	.18*	.19*	.16	.16	-.20*	.27**	-.04	.15	.54**	.62**	.91**				
23. W3Y.Int	-.14	-.26**	.15	.28**	.10	.06	-.06	-.12	.21*	.20*	.09	.06	.09	.09	.01	.01	-.12	.20*	.31**	.25*	.04	.00			
24. W3Y.Int-t	-.09	-.04	.11	.27**	.07	.11	-.01	-.02	.22*	.25**	.16	.13	.16	.15	-.04	.06	-.16	.21*	.28**	.26**	.03	.02	.95**		
25. W3Y.Ext	-.17	.01	.15	.34**	.09	.15	.02	.13	-.00	.04	.11	.	.16	.16	-.08	.29**	-.24**	.28**	.24*	.23*	.36**	.35**	.56**	.59**	

26. W3Y.Ext-T	-.14	-.01	.14	.32**	.06	.12	.05	.15	.02	.06	.09	.06	.17	.17	-.08	.27**	.32**	.21*	.21*	.26**	.29**	.57**	.61**	.97**

Notes. W1 = Wave 1; W3 = Wave 3; Y = Youth; P = Parent; -t = t-scores. SES = socio-economic status; Atv = Authoritative parenting; Atn = Authoritarian parenting; Int = Internalizing; Ext = Externalizing. Gender (0=Female, 1=Male); Gen = Generation status (0=1st generation, 1=2nd generation).
* indicates $p < .05$. ** indicates $p < .01$.

Table 3

Correlations between Parent and Youth Report across Parenting Subscales

Subscale	Correlation Coefficient
Authoritative Parenting	
W1 Warmth	.06
W1 Reasoning/Induction	.09
W1 Democratic Participation	.01
W3 Warmth	.29***
W3 Reasoning/Induction	.24**
W3 Democratic Participation	.25**
Authoritarian Parenting	
W1 Non-Reasoning/Punitive	.10
W1 Corporal Punishment	.10
W1 Verbal Hostility	.02
W3 Non-Reasoning/Punitive	.05
W3 Corporal Punishment	.17
W3 Verbal Hostility	.14

* indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$

Table 4

Results from Path Analyses

Paths from Parenting to Adjustment	Raw scores stringent	Raw scores non-stringent	T-scores stringent	T-scores non-stringent
Authoritative (P) → Int (P)	-0.27 (-0.03)	-0.21 (-0.02)	-0.84 (-0.05)	0.08 (0.004)
Authoritative (P) → Ext (P)	0.19 (0.03)	0.72 (0.11)	1.70 (0.12)	2.36 (0.16)*
Authoritarian (P) → Int (P)	0.99 (0.11)	1.02 (0.09)	1.61 (0.08)	2.58 (0.12)
Authoritarian (P) → Ext (P)	0.96 (0.14)	0.60 (0.08)	1.27 (0.08)	1.03 (0.06)
Authoritative (P) → Int (Y)	1.34 (0.08)	0.08 (0.17)	1.00 (0.05)	1.19 (0.06)
Authoritative (P) → Ext (Y)	0.05 (0.004)	0.02 (0.04)	-0.36 (-0.02)	-0.11 (-0.006)
Authoritarian (P) → Int (Y)	1.80 (0.08)	0.12 (0.31)	2.16 (0.08)	3.41 (0.13)
Authoritarian (P) → Ext (Y)	2.34 (0.16)	0.19 (0.49)**	2.76 (0.13)	3.44 (0.16)*
Authoritative (Y) → Int (Y)	-0.22 (-0.02)	-0.001 (-0.001)	0.31 (0.02)	0.39 (0.03)
Authoritative (Y) → Ext (Y)	-0.43 (-0.05)	-0.07 (-0.09)	-0.27 (-0.02)	-0.39 (-0.04)
Authoritarian (Y) → Int (Y)	-1.60 (-0.15)	-0.06 (-0.07)	-1.79 (-0.14)	-0.52 (-0.04)
Authoritarian (Y) → Ext (Y)	0.44 (0.06)	0.12 (0.15)	0.75 (0.07)	1.39 (0.14)
Authoritative (Y) → Int (P)	-0.76 (-0.13)	-0.23 (-0.04)	-1.73 (-0.14)	-0.42 (-0.03)
Authoritative (Y) → Ext (P)	-0.63 (-0.15)*	-0.27 (-0.06)	-1.77 (-0.18)*	-0.70 (-0.07)
Authoritarian (Y) → Int (P)	0.69 (0.13)	-0.58 (-0.09)	1.05 (0.09)	-1.17 (-0.10)
Authoritarian (Y) → Ext (P)	0.75 (0.18)	0.10 (0.02)	2.06 (0.22)*	0.59 (0.06)
Autoregressive Paths	**Raw scores stringent**	**Raw scores non-stringent**	**T-scores stringent**	**T-scores non-stringent**
P report of parenting				
W1 Int (P) → W3 Int (P)	0.34 (.29)*	N/A	0.28 (0.28)**	N/A
W1 Ext (P) → W3 Ext (P)	0.01 (0.02)	N/A	0.13 (0.17)	N/A
W1 Ext (Y) → W3 Int (Y)	0.27 (0.17)*	N/A	0.14 (0.19)*	N/A
W1 Ext (Y) → W3 Ext (Y)	0.12 (0.11)	N/A	0.09 (0.15)	N/A
Y report of parenting				
W1 Int (P) → W3 Int (P)	0.38 (0.32)*	N/A	0.31 (0.31)**	N/A
W1 Ext (P) → W3 Ext (P)	0.03 (0.05)	N/A	0.13 (0.18)	N/A
W1 Ext (Y) → W3 Int (Y)	0.38 (0.23)*	N/A	0.18 (0.24)*	N/A
W1 Ext (Y) → W3 Ext (Y)	0.12 (0.02)	N/A	0.08 (0.12)	N/A
Covariates	**Raw scores stringent**	**Raw scores non-stringent**	**T-scores stringent**	**T-scores non-stringent**
P report of parenting				
W1 SES → W3 Int (P)	1.13 (0.26)*	0.52 (0.10)	2.30 (0.25)*	1.27 (0.13)
W1 SES → W3 Ext (P)	0.50 (0.15)	0.22 (0.06)	1.35 (0.19)	0.68 (0.09)
W1 SES → W3 Int (Y)	1.85 (0.19)*	1.99 (0.21)*	2.39 (0.21)*	2.62 (0.23)*
W1 SES → W3 Ext (Y)	2.32 (0.36)***	2.00 (0.32)**	3.25 (0.35)***	2.82 (0.31)**
Y report of parenting				
W1 SES → W3 Int (P)	1.30 (0.30)*	0.42 (0.08)	2.62 (0.29)**	1.15 (0.11)
W1 SES → W3 Ext (P)	0.67 (0.21)*	0.31 (0.09)	1.93 (0.26)*	1.03 (0.13)
W1 SES → W3 Int (Y)	1.86 (0.19)*	0.22 (0.24)*	2.31 (0.20)*	2.61 (0.23)*
W1 SES → W3 Ext (Y)	2.38 (0.37)***	0.34 (0.38)***	3.30 (0.36)***	2.87 (0.32)**
P report of parenting				
Youth generation → W3 Int (P)	-0.28 (-0.03)	0.96 (0.09)	-0.54 (-0.03)	1.53 (0.07)
Youth generation → W3 Ext (P)	0.32 (0.05)	1.02 (0.14)*	-0.62 (-0.04)	1.32 (0.08)
Youth generation → W3 Int (Y)	1.26 (0.06)	1.72 (0.09)	0.91 (0.04)	1.62 (0.07)

Youth generation → W3 Ext (Y)	0.57 (0.04)	1.06 (0.08)	0.75 (0.04)	1.49 (0.08)
Y report of parenting				
Youth generation → W3 Int (P)	-0.46 (-0.05)	0.71 (0.08)	-1.08 (-0.06)	1.01 (0.05)
Youth generation → W3 Ext (P)	0.21 (0.03)	0.90 (0.12)*	-0.91 (-0.06)	1.09 (0.07)
Youth generation → W3 Int (Y)	0.81 (0.04)	0.08 (0.18)	0.56 (0.02)	1.55 (0.07)
Youth generation → W3 Ext (Y)	0.22 (0.02)	0.06 (0.14)	0.42 (0.02)	1.22 (0.07)
P report of parenting				
Youth gender → W3 Int (P)	-0.74 (-0.09)	-0.70 (-0.70)	0.72 (0.04)	1.47 (0.08)
Youth gender → W3 Ext (P)	0.32 (0.05)	0.69 (0.12)	0.73 (0.05)	1.55 (0.11)
Youth gender → W3 Int (Y)	-4.47 (-0.26)**	-3.84 (-0.23)**	-0.65 (-0.03)	0.07 (0.003)
Youth gender → W3 Ext (Y)	-0.19 (-0.02)	0.16 (0.01)	-0.62 (-0.04)	0.008 (0.001)
Y report of parenting				
Youth gender → W3 Int (P)	-0.68 (-0.08)	-0.25 (-0.03)	0.91 (0.05)	2.49 (0.13)
Youth gender → W3 Ext (P)	0.34 (0.05)	0.91 (0.14)	0.69 (0.05)	1.97 (0.14)
Youth gender → W3 Int (Y)	-3.95 (-0.23)**	-0.20 (-0.40)*	-0.05 (-0.002)	0.51 (0.03)
Youth gender → W3 Ext (Y)	-0.25 (-0.02)	-0.003 (-0.005)	-0.86 (-0.05)	-0.51 (-0.03)

Note. Unstandardized estimates are outside the parentheses, standardized estimates are within the parentheses. . P = Parent report; Y = Youth report; W1 = Wave 1; W3 = Wave 3.

* indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$

Figure 1

Conceptual Model of Parenting Styles and Adolescent Adjustment

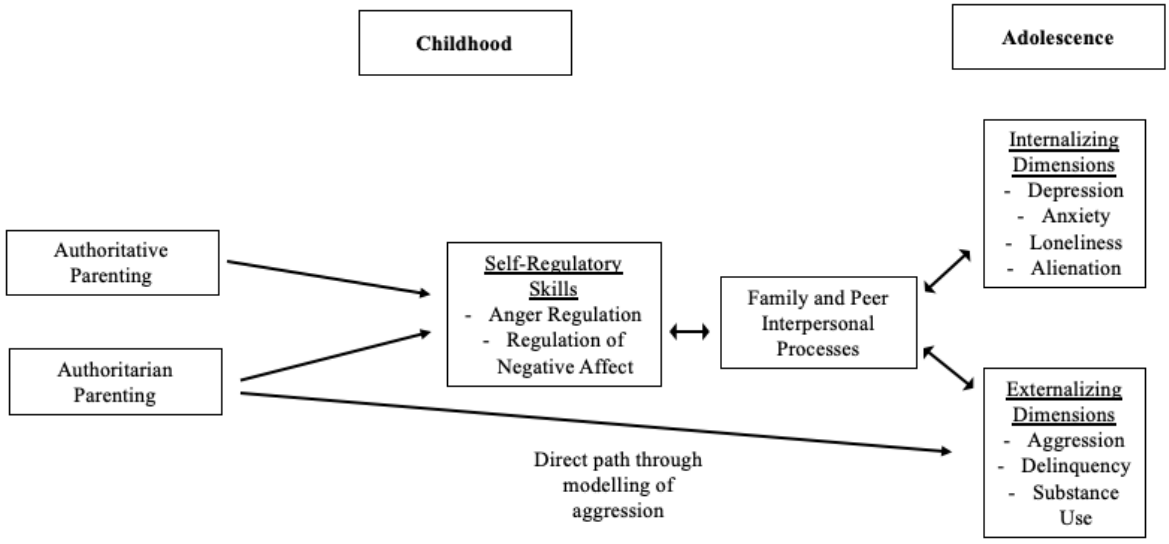
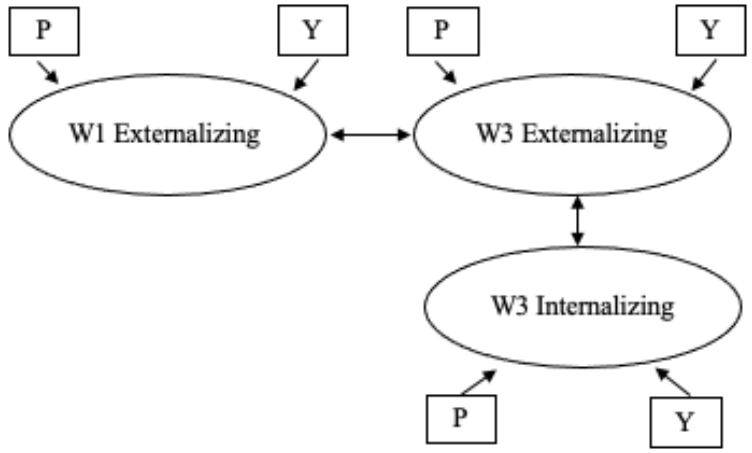


Figure 2

Measurement Model of Parenting

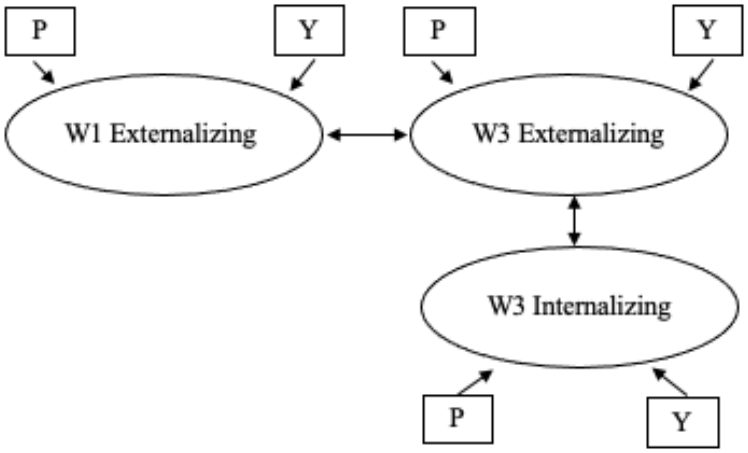


Note. Model fit statistics: $\chi^2(df = 12, N = 258) = 14.60$, $p = 0.26$, CFI = .98, RMSEA = .03, SRMR = .04. W1 = Wave 1; W3 = Wave 3;

P =Parent report; Y = Youth report. Wave 1 Internalizing excluded due to low alpha reliability of report.

Figure 3

Measurement Model of Adjustment

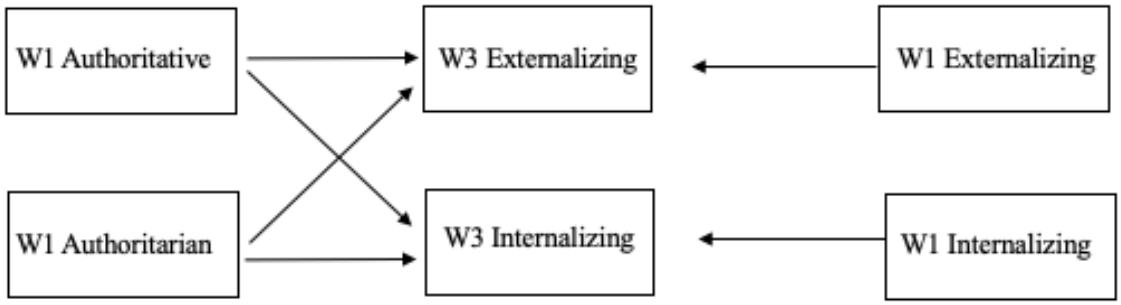


Note. Raw scores model fit statistics: $\chi^2(df = 5, N = 257) = 1.08$, $p = 0.96$, CFI = 1.00, RMSEA = 0.00, SRMR = 0.03. T-score model fit statistics: $\chi^2(df = 5, N = 257) = 3.38$, $p = 0.64$, CFI = 1.00, RMSEA = 0.00, SRMR = 0.04. W1 = Wave 1; W3 = Wave 3; P = Parent report.

Y = Youth report. Wave 1 Internalizing excluded due to low alpha reliability of youth report.

Figure 4

Path Model of Wave 1 Parenting Predicting Wave 3Aadjustment with Autoregressive Paths.



Note. W1 = Wave 1; W3 = Wave 3.

Figure 5

Boxplot of Authoritative Parenting at Waves 1 and 3

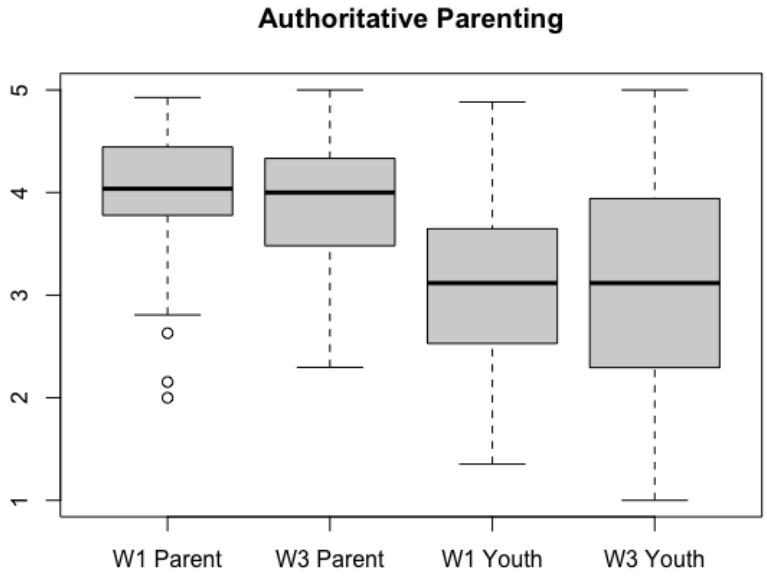


Figure 6

Boxplot of Authoritative Parenting at Waves 1 and 3

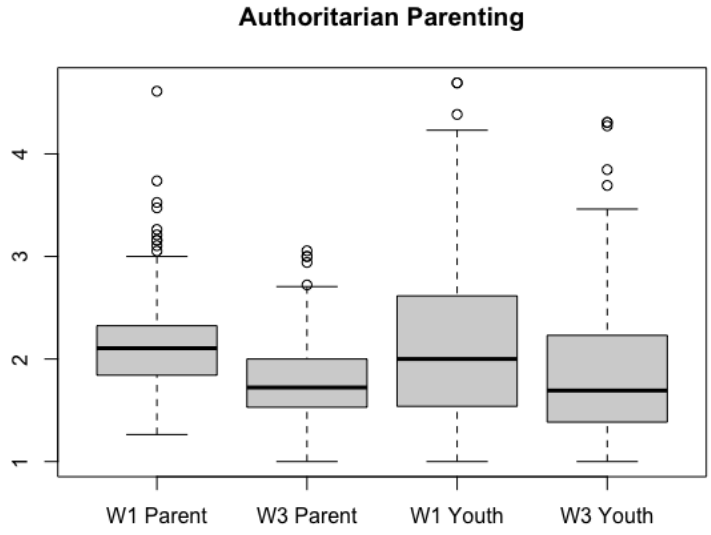
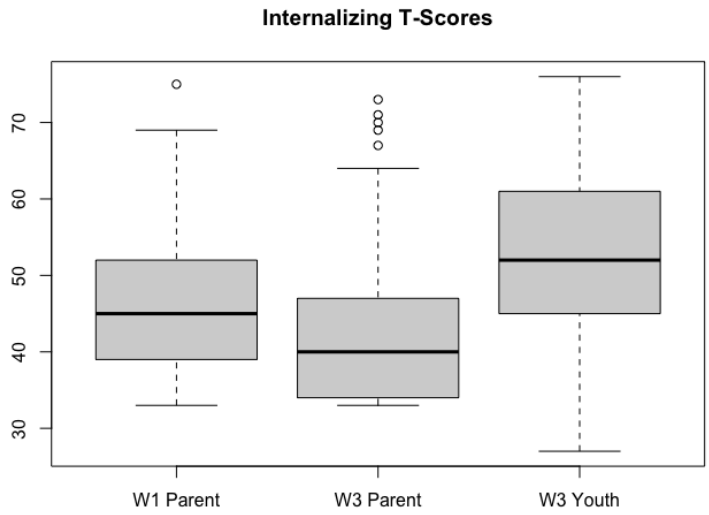


Figure 7

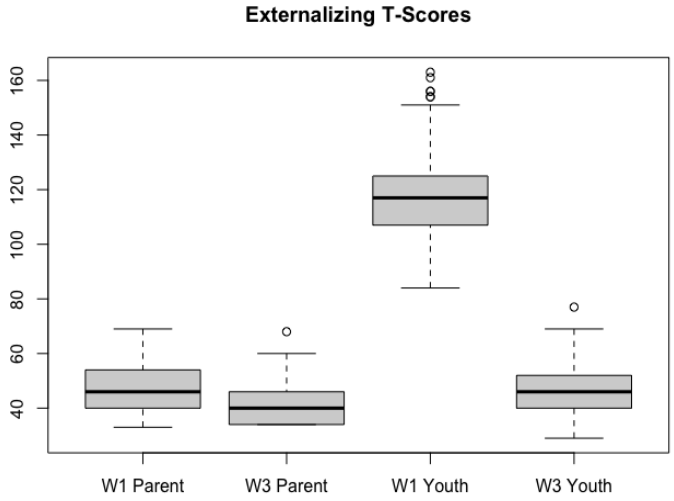
Boxplot of Internalizing T-scores at Waves 1 and 3



Note. Youth Wave 1 excluded due to low alpha reliability.

Figure 8

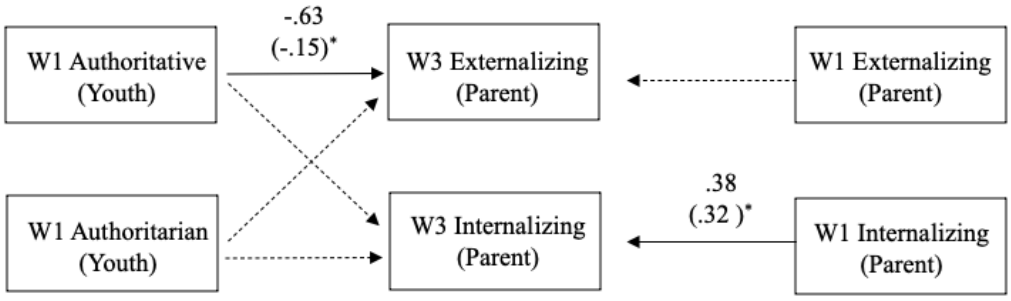
Boxplot of Externalizing T-scores at Waves 1 and 3



Note. Youth report at Wave 1 measured using different rating scale.

Figure 9

Autoregressive Path Model with Youth Report of W1 Parenting and Parent Report of W3 Adjustment (Raw Scores)



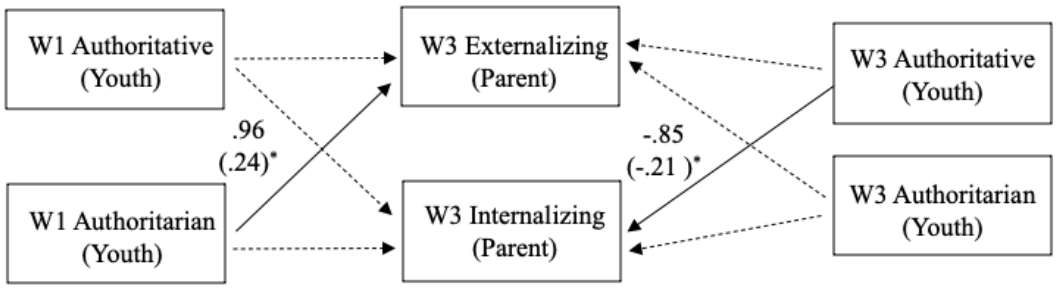
Note. Model fit statistics: $\chi^2(df = 2, N = 111) = 1.24$, $p = 0.54$, CFI = 1.00, RMSEA = 0.00, SRMR = 0.02.

Unstandardized path coefficients are outside the parentheses, standardized path coefficients are inside the parentheses. Significant paths are shown with solid arrows, non-significant paths are indicated with dashed arrows. Although not pictured, covariates were controlled for (W1 family SES, W1 youth age, youth gender, and youth generation status). Of these covariates, W1 family SES had positive paths to W3 internalizing and externalizing.

* indicates $p < .05$

Figure 10

Autoregressive Path Model with Youth Report of W1 Parenting and Parent Report of W3 Adjustment (Raw Scores) – W3 Parenting Controlled



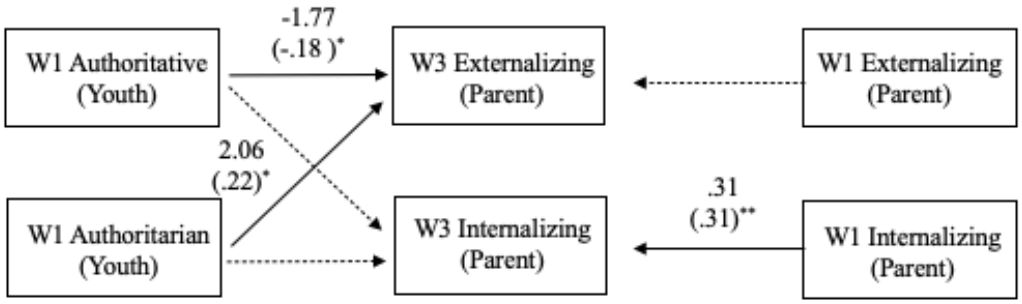
Note. Model fit statistics: $\chi^2(df = 2, N = 99) = 0.55$, $p = 0.76$, CFI = 1.00, RMSEA = 0.81, SRMR = 0.01.

Unstandardized path coefficients are outside the parentheses, standardized path coefficients are inside the parentheses. Significant paths are shown with solid arrows, non-significant paths are indicated with dashed arrows. Although not pictured, covariates were controlled for (W1 family SES, W1 youth age, youth gender, and youth generation status). Of these covariates, W1 family SES had positive paths to W3 internalizing and externalizing.

* indicates $p < .05$

Figure 11

Autoregressive Path Model with Youth Report of W1 parenting and Parent Report of W3 Adjustment (T-Scores)



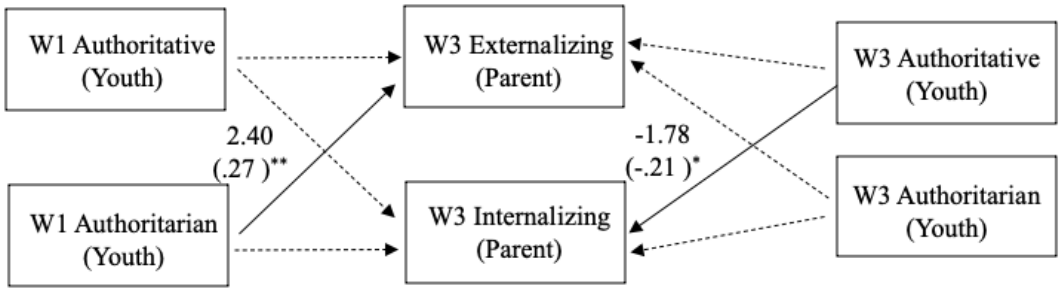
Note. Model fit statistics: $\chi^2(df = 2, N = 111) = 1.24$, $p = 0.42$, CFI = 1.00, RMSEA = 0.00, SRMR = 0.03.

Unstandardized path coefficients are outside the parentheses, standardized path coefficients are inside the parentheses. Significant paths are shown with solid arrows, non-significant paths are indicated with dashed arrows. Although not pictured, covariates were controlled for (W1 family SES, W1 youth age, youth gender, and youth generation status). Of these covariates, W1 family SES had positive paths to W3 internalizing and externalizing.

* indicates $p < .05$. ** indicates $p < .01$

Figure 12

Autoregressive Path Model with Youth Report of W1 parenting and Parent Report of W3 Adjustment (T-Scores) – W3 Parenting Controlled



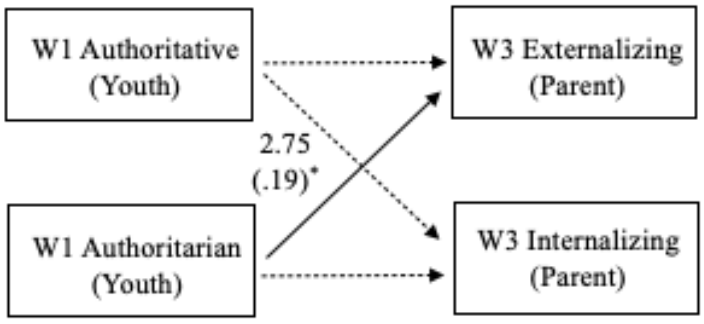
Note. Model fit statistics: $\chi^2(df = 2, N = 99) = 0.53$, $p = 0.77$, CFI = 1.00, RMSEA = 0.82, SRMR = 0.02.

Unstandardized path coefficients are outside the parentheses, standardized path coefficients are inside the parentheses. Significant paths are shown with solid arrows, non-significant paths are indicated with dashed arrows. Although not pictured, covariates were controlled for (W1 family SES, W1 youth age, youth gender, and youth generation status). Of these covariates, W1 family SES had positive paths to W3 internalizing and externalizing.

* indicates $p < .05$. ** indicates $p < .01$

Figure 13

Non-Stringent Path Model with Youth Report of W1 Parenting and Parent Report of W3 Adjustment (Raw Scores)



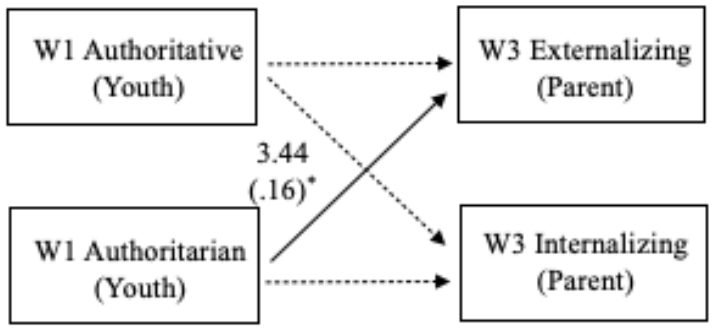
Note. No model fit statistics available, fully saturated model.

Unstandardized path coefficients are outside the parentheses, standardized path coefficients are inside the parentheses. Significant paths are shown with solid arrows, non-significant paths are indicated with dashed arrows. Although not pictured, covariates were controlled for (W1 family SES, W1 youth age, youth gender, and youth generation status). Of these covariates, W1 family SES had positive paths to W3 internalizing and externalizing and youth gender had a positive path to W3 internalizing.

* indicates $p < .05$

Figure 14

Non-Stringent Path Model with Youth Report of W1 Parenting and Parent Report of W3 Adjustment (T-Scores)



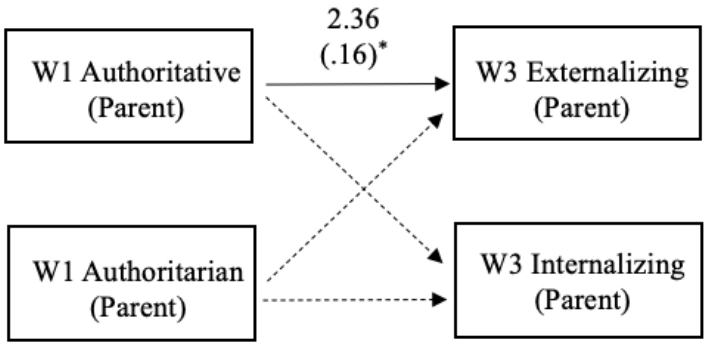
Note. No model fit statistics available, fully saturated model.

Unstandardized path coefficients are outside the parentheses, standardized path coefficients are inside the parentheses. Significant paths are shown with solid arrows, non-significant paths are indicated with dashed arrows. Although not pictured, covariates were controlled for (W1 family SES, W1 youth age, youth gender, and youth generation status). Of these covariates, W1 family SES had positive paths to W3 internalizing and externalizing.

* indicates $p < .05$

Figure 15

Non-Stringent Path Model with Parent Report of W1 Parenting and W3 Adjustment (T-Scores)



Note. No model fit statistics available, fully saturated model.

Unstandardized path coefficients are outside the parentheses, standardized path coefficients are inside the parentheses. Significant paths are shown with solid arrows, non-significant paths are indicated with dashed arrows. Although not pictured, covariates were controlled for (W1 family SES, W1 youth age, youth gender, and youth generation status). None of these covariates had significant paths to W3 adjustment.

* indicates $p < .05$