



Discrimination, the Model Minority Stereotype, and Peer Relationships Across the High School Years

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Abstract

Ethnic stereotyping can profoundly influence youth adjustment; however, little work has addressed how the model minority stereotype may affect adolescent social adjustment. This study examined Asian American adolescents' peer relationships over time and how perceived discrimination and model minority stereotyping are associated with positive (support) and negative (criticism) qualities in these relationships. Multi-wave survey data were collected from 175 Asian adolescents in the Southeast over three time points. Participants were 60% female (freshmen $M_{\text{age}} = 14.42$ years, $SD = 0.64$ and sophomores $M_{\text{age}} = 15.56$ years, $SD = 0.74$). They were 75% US-born and represented various heritage groups (e.g., Hmong, East/Southeast Asian, South Asian). Within-person, year-to-year associations between variables were explored. Criticism from White and other-ethnic peers decreased over time. Discrimination was associated with higher criticism over time, and links between model minority stereotyping and support were found. With White peers, when stereotyping experiences increased, both positive and negative relationship qualities increased. Experiences of stereotyping and discrimination interacted, exacerbating each other with regard to criticism. The discussion compares model minority stereotyping and discrimination, both likely to create strained relationships.

Keywords Adolescence · Peer relationships · Social adjustment · Model minority · Discrimination

Introduction

Navigating the social hierarchies of an American high school can be daunting. Students from diverse ethnic backgrounds may experience added complexity in making friends due to prejudice, discrimination, and stereotyping (Pettigrew 1998). In particular, Asian American youth experience a unique form of stereotyping: the “model minority” stereotype paints them as industrious, intelligent, compliant, and quiet (Chang and Demyan 2007). Exposure to model minority stereotyping has shown mixed

associations with developmental outcomes, including academic (e.g., Thompson and Kiang 2010) and psychological adjustment (e.g., Atkin et al. 2018). However, scant work has addressed the effect of such stereotyping experiences on social adjustment. Thus, the purpose of this study is to explore the perceived quality of Asian American adolescents' peer relationships, as a function of the concurrent forces of discrimination and model minority stereotyping. Such investigation could help to shed light on the social implications of broader “positive” stereotyping for all youth from diverse backgrounds.

Peer Relationship Development in Adolescence

Although there is much work on adolescent peer relationships, most of it has focused on peer nominations and selection. However, simply considering the number of friends does not provide information about the value of those relationships or how the relationships evolve. Few studies have investigated the *quality* of peer relationships over their quantity, let alone how quality might change over time. Robert Weiss' theory of social provisions suggests that people meet various social needs (e.g.,

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attachment, self-worth, guidance) via different types of relationships, which might also possess negative qualities (e.g., relative power, conflict, criticism; Furman and Buhrmester 1985). American adolescence is a time known for the increased importance of peer relationships (Reis et al. 2000), and teens are likely striving to meet social needs through peer affiliations. Hence, quality dimensions of friendships could be key to the affiliative power dynamics that might be found in same- and cross-ethnic relationships during adolescence. In particular, the qualities of friendship *support* and *criticism* were of interest in this study. These subscales bore similarities to relationship qualities used in past studies of friendships (e.g., acceptance and rejection in Bellmore et al. 2007), and represent critical positive and negative relationship dimensions, respectively. Furthermore, social support and conflict or criticism are important relational constructs for diverse youth especially, and support from friends has been found to be essential for Asian young adults, relative to other relationship qualities and groups (e.g., support from parents; Moilanen and Raffaelli 2010).

Like youth of all ethnicities, individuals of Asian descent report an “in-group bias” or “group solidarity” in choosing friends (e.g., Bellmore et al. 2007). Asian American youths’ preference has been found to have a “positive bias”, meaning individuals have more positive relationships with same-ethnic peers, versus a “global bias”, which would be true if they had stronger associations (both positive and negative) with their peers (Bellmore et al. 2007). Bonds with same-ethnic peers have empirically been associated with positive outcomes, such as strong ethnic identity (Chen and Graham 2017), and social identity theory suggests that identification with like others is healthy and important for development (Tajfel 1982).

Outside of their ethnicity, Asian youth generally report positive attitudes toward European Americans (Bikmen 2011), and tend to disproportionately befriend White peers compared to peers from non-Asian backgrounds (Chen and Graham 2015). However, even when Asian adolescents have cross-ethnic friendships, their closest friends still tend to be their same ethnicity (Kao and Joyner 2004). Same-ethnic friendships are more stable over time (Rude and Herda 2010), yet adolescents may show increased openness to interacting with other ethnic groups as they mature and gain more social experience (Hamm and Coleman 2001). Overall, the systematic investigation of these processes and the relationship qualities that may underlie friendship selection over time is still needed. To address this shortcoming, this study draws on conceptual models of friendships, as well as perspectives on racial interactions, to examine predictors of peer relationship quality for Asian youth across different peer groups in the critical high school period.

Discrimination and Peer Relationships

Adolescence is a time of intensive identity development (Erikson 1968). In their efforts to understand themselves and their place in this social world, teenagers may be particularly prone to social categorization (Fuligni et al. 2008) and, by extension, stereotyping and discrimination (Aronson and Good 2002). Indeed, Asian American youth have almost universally reported experiences with discrimination (Yoon et al. 2017), and some studies suggest that they report greater levels of peer discrimination than other minorities (e.g., Niwa et al. 2014). Such discrimination is perpetrated by European American, African American, and Latinx peers, as well as other Asian Americans (Qin et al. 2008). Asian Americans are presumed to have poor social skills, remain “perpetual foreigners”, (Wong et al. 2012), and represent an economic threat (Ho and Jackson 2001), which leads to maltreatment, ranging from verbal harassment to physical assault (Qin et al. 2008). However, tracking developmental trends in such discrimination and its sequelae is key, as youth are noted to report decreasing ethnicity-based discrimination throughout the high school period (Bellmore et al. 2012), although this trend may depend on the discrimination source (Greene et al. 2006).

Meta-analysis shows that exposure to discrimination has been linked to negative outcomes for youth, such as depressive symptoms, psychological distress, low self-esteem, poor grades and school engagement, and externalizing behaviors (Benner et al. 2018). Regarding social adjustment specifically, greater discrimination has been linked with low social connectedness (Lee 2003, 2005), less prosocial behavior (Grossman and Liang 2008), less positive relationships (Kiang et al. 2016), negative school climate (Wang and Atwal 2015), family alienation (Benner and Kim 2009), and anti-social behaviors (Park et al. 2013). However, discrimination has also been linked to Asian Americans forming stronger bonds with same-ethnic peers (Kiang et al. 2011). Consistent with Tajfel’s (1982) intergroup conflict theory, discrimination may heighten intergroup tensions and strengthen intragroup ties. Thus, this study tracks discrimination for comparison with the model minority stereotype, with regard to how it might be linked with dimensions of peer relationship quality.

Additionally, although discrimination among Asian youth has been explored in past empirical work, students in different portions of the country may have very different experiences. The majority of existing studies on the Asian American population have been conducted in large, metropolitan cities, with relatively high ethnic diversity (e.g., Niwa et al. 2014). Those in new and emerging immigrant communities may have unique experiences (Kiang and Supple 2016). As such, this study aimed to

focus on the experiences of high school students in the Southeastern USA, where Asian American populations are often lower relative to large urban areas in other parts of the country.

The Model Minority Stereotype & Peer Relationships

Like discrimination, the model minority stereotype is a nearly universal experience for Asian youth. A “positive” stereotype that paints Asian Americans as quiet and intelligent may intuitively bode well for adjustment. Although investigation is still emerging, work thus far has found perception of stereotyping experiences to increase throughout adolescence (Thompson et al. 2016). Attribution theory would suggest that, if internal, stable traits (i.e., stereotypes) are invoked to explain desirable behavior, people will be more likely to react pleasantly toward an individual (Reyna 2000), which could foster strong relationships. Furthermore, symbolic interactionism and self development theory (Harter 1999) suggest that individuals tend to adopt others’ favorable images of themselves (e.g., the model minority image), which can result in better adjustment and relationships.

Indeed, some studies have correlated adolescents’ experiences with the model minority stereotype with positive social adjustment (Rodriguez-Operana et al. 2017). However, other work has mainly focused on negative reactions to positive stereotyping. For example, in an experimental paradigm, Black college students rated a White speaker expressing a positive racial stereotype (i.e., Black people are athletic) as less likeable, more prejudiced, and less knowledgeable about diversity than a control White speaker (Czopp 2008). Such a finding suggests that, even if a stereotype is “positive”, it may be unwelcome in the eyes of the target. Consistent with this work, Asian American high school students have reported that they feel the model minority image can be restrictive, inaccurate, and damaging to social relationships (Rosenbloom and Way 2004). Wu (2002) suggests that Asian Americans who feel that over-generalizations about their group are confining may react by trying to defy the stereotype and define themselves in non-stereotypical ways (e.g., de-emphasizing school to resist achievement stereotypes) (Rosenbloom and Way 2004). Thus, it seems that Asian American youth may not only have a negative reaction to the stereotype, but one so strong that it directly impacts their self-presentations and likely their self-concepts as well.

In practice, the social circles of Asian teens reflect these complex issues. They tend to befriend White peers (Chen and Graham 2015); yet, according to Gordon Allport’s intergroup contact hypothesis (Pettigrew 1998), groups need to have equal status in order to have positive, prejudice-reducing interactions. European Americans’ more

dominant social status may allow them to feel less threatened by Asian Americans, making at least surface-level accords possible. Yet, the very inception of the model minority stereotype stemmed from the White majority’s efforts to position minority groups against each other to create a system of racial geometry (Gould 1996), whereby Asian Americans are placed beneath White Americans in terms of status and power, but still above other ethnic minority groups. Partial treatment, whether real or perceived, of Asian students by others may drive social division and discriminatory behavior by Black and Latinx peers (Qin et al. 2008). This racial triangulation places Asian Americans in a position of consistently mixed messages about their heritage, which may have unique implications for youth social development. Alternatively, Asian Americans may have stronger intra-ethnic relationships as they bond against the resentment, rejection, or distance from other groups caused by stereotyping (Brown et al. 2008). The potential reaction of greater in-group connection, such as more support, may be like the response seen among youth experiencing discrimination (Kiang et al. 2011) and again in line with Tajfel’s (1982) theory of intergroup conflict. However, little empirical work has directly assessed within-group social dynamics regarding the model minority stereotype, specifically, which this study aimed to address.

Furthermore, initial work in this area has shown interactive effects of model minority stereotype and discrimination experiences in predicting adjustment (e.g., academic adjustment; Kiang et al. 2016); although both constructs are founded in bias, the stereotype appeared to buffer against the effects of discrimination. Thus, to the extent that these two social phenomena may interact with one another and complicate Asian youths’ social lives, it is important to evaluate the two constructs jointly. No known studies have investigated the interactive effects of discrimination and the model minority stereotype in the context of peer relationships, so analyses aimed to cover this gap, as well.

Potential Moderating Factors

Adolescents’ gender and generational status may be important variables to consider when exploring peer relationship variables, perceived stereotyping, or discrimination. For instance, male Asian American adolescents report more discrimination and more negative peer interactions than females (Wang and Atwal 2015), and females of several ethnicities report more friendship support than males (Way and Chen 2000). With regard to generational status, first- and second-generation immigrant youth may show different levels of success integrating into diverse peer networks, with second-generation adolescents experiencing

less marginalization and more integration (Reynolds and Crea 2017). Furthermore, US-born youth and those with higher levels of acculturation may interpret their discrimination experiences differently than immigrant youth (Liang et al. 2007) or those less oriented toward American culture (Benner and Kim 2009). Thus, factors such as participant gender and generational status will be important to include as moderators in the study of peer relationships, discrimination, and stereotyping.

Current Study

Past empirical inquiry into the relationships of Asian American youth has been scant. The complex interplay between negative discrimination experiences and the model minority stereotype in shaping youth social networks warrants exploration, as few studies have examined both types of experiences concurrently. This study addresses multiple gaps in the field's understanding of youth peer relationships by targeting several aims, using longitudinal data collection from Asian American high school students. The first aim was to explore the peer relationships of Asian American adolescents across various friendship contexts (i.e., same-ethnic or Asian, European American, and other-ethnic minority) over time. Available findings suggest an in-group preference (e.g., Hamm et al. 2005) but also the potential for increased openness to interacting with other ethnic groups over time (Hamm and Coleman 2001). Thus, hypotheses were that youth would report (1) supportive relationships with same-ethnic (i.e., Asian) peers and (2) increasing supportive and decreasing critical interactions with out-group peers. Second, this study explored the association between discrimination and peer relationship quality, controlling for stereotyping. Past theoretical (Tajfel 1982) and empirical work (Kiang et al. 2011) suggest that discrimination may harm out-group relations and promote in-group relations. As such, it was expected that discrimination would be associated with more negative relationship indicators (e.g., criticism) with out-groups (i.e., White peers, other-minority peers) and improved positive relationship indicators (i.e., support) with same-ethnic peers.

The third aim of this study was to explore the association between model minority stereotyping experiences and peer relationship quality, controlling for discrimination. Like discrimination, studies suggest that stereotyping is associated with in-group bonding (Brown et al. 2008) and tension with other minority peers (e.g., Rosenbloom and Way 2004). Hypotheses were that stereotyping experiences would be associated with lower quality relationships (e.g., greater criticism, less support) with other-ethnic minority peers (e.g., African American, Latinx) and more positive

relationships with same-ethnic peers. Considering the inconsistent findings in prior work regarding White peers, these analyses were considered largely exploratory. Finally, this study explored the tandem associations between discrimination and model minority stereotyping experiences with peer relationships. Few studies have investigated possible interactive effects of positive stereotyping and discrimination; as such, these analyses were largely exploratory. However, based on the concept of triangulation reviewed above, it is possible that stereotyping and discrimination may interact to exacerbate negative relationships with White and other-ethnic minority peers.

Methods

Participants

Participants were drawn from a large multi-wave study conducted in the Southeastern USA. This article focuses on data collected from participants over three waves out of the overall five-wave study. The study began with ~180 youth identified as “Asian” according to their school's definition. The initial sample was 60% female and 75% US-born. Participants represented several self-reported heritage groups: 28% Hmong; 22% multiethnic (e.g., Cambodian and Chinese); 11% South Asian (Indian, Pakistani); 8% Chinese; and 23% using other East Asian (e.g., Japanese, Korean), Southeast Asian (Cambodian, Laotian, Thai, Vietnamese), and pan-ethnic (e.g., Asian American) labels. When first contacted, students were freshmen ($M_{\text{age}} = 14.42$ years, $SD = 0.64$) and sophomores ($M_{\text{age}} = 15.56$ years, $SD = 0.74$), and participants were followed yearly for four years.

Regarding SES indicators, of the adolescents reporting parent education, 18% of fathers and 28% of mothers had some primary and secondary school experiences, 17% of fathers and 16% of mothers graduated from high school, 9% of fathers and 11% of mothers had some college experience, 32% of fathers and 33% of mothers graduated from college, and 24% of fathers and 12% of mothers had a professional post-grad degree. Regarding parent occupation, 10% of fathers and 22% of mothers were unemployed, 14% of fathers and 22% of mothers had unskilled jobs, 34% of fathers and 32% of mothers had semi-skilled or skilled jobs, and 42% of fathers and 24% of mothers had semi-professional or professional jobs.

This study's attrition rate was comparable to similar longitudinal studies of high school students (e.g., Greene et al. 2006). Data were collapsed across cohorts. Most participants completed all waves during high school, with those who began in 9th grade completing an average of 3.95 ($SD = 0.22$) waves and those who began in 10th grade

completing an average of 2.92 ($SD = 0.27$). Analyses were conducted investigating differences based on whether or not a participant completed each of the follow-up assessments. First, differences in demographic variables according to non-participation in waves 3 or 4 (with wave 2 the earliest data used) were examined. At both time points, females were more likely to participate than males, $X^2 = 7.93$ – 16.27 , $ps < 0.01$. Youth born in the USA were more likely to participate in wave 3 relative to immigrant youth, $X^2 = 7.84$, $p < 0.01$, although there was no difference at wave 4, $X^2 = 2.31$, *n.s.* Second, differences in discrimination, model minority stereotyping (MMS), and all of the relationship variables at wave 2 were examined according to non-participation at waves 3 and 4. In no instance was there a difference. In terms of specific instances of missing data, the analytical approach (i.e., hierarchical linear modeling) uses all available data for its estimates rather than casewise deletion. Hence, the analyses are based on the 175 participants who participated in waves 2–4 of the study, during which the current measures were assessed.

Procedure

Participants were recruited from six public high schools in the Southeastern USA that were identified as having high rates of Asian growth for the area. The schools differed in population density, SES, academic quality, and ethnic diversity. Often, ethnic and minority studies are conducted in populous locations with high ethnic diversity. However, this data collection was conducted in suburban and rural areas, wherein the population of Asian American students ranged from 3 to 10%. Two of the schools were predominately African American (60–65%), and four of the schools were mostly White (60–80%). The schools with the highest proportion of White students (80%) also had the highest proportion of Asian American students (7–10%). Each school also had a Latinx population ranging from 5 to 20%. Thus overall, this study speaks to the unique and understudied perspectives of youth living in less diverse areas.

Students were recruited at a school meeting as part of a larger project on Asian American adolescents' purpose and meaning in life. Researchers later returned to the schools to administer questionnaires to those who returned signed parental consent and adolescent assent forms. The measures took ~30–60 min to complete. Compensation was \$25 for the first wave of data collection. Surveys were administered similarly for waves 2 and 3, for which participants received \$15 each. For wave 4, given that the initial 10th grade cohort had already graduated, data collection was conducted via postal mail. As stated earlier, the final follow-up was conducted online. Adolescents received \$20 each for participating in wave 4 and the post-high school follow-up.

Measures

Demographic variables

A brief questionnaire covered background variables, such as participant age, gender, grade, generation, parent education, and parent employment. Parent education and employment status can be considered indicators of SES (e.g., Kiang and Fuligni 2009), important for determining the generalizability of results.

Perceived discrimination

Experiences of discrimination were measured via a seven-item self-report survey adapted from a well-validated and widely-used measure from Greene and colleagues (2006); such a measure has been successfully used with Asian youth in previous work (e.g., Kiang et al. 2016). Participants used a 5-point Likert-type scale (1 = *never* to 5 = *all the time*) to rate how often they felt race or ethnicity-based discrimination in seven situations (e.g., being treated unfairly, being disliked). The source or perpetrator of the discriminatory experiences was not specified. To aid interpretation, responses were recoded to a 0–4 scale, with higher scores indicating more frequent discrimination experiences ($\alpha = 0.87$ – 0.92).

Perceived model minority stereotyping

Experiences of the model minority stereotype were assessed via a nine-item self-report measure also adapted from the discrimination measure from Greene and colleagues (2006). This MMS measure was first used in (Thompson and Kiang 2010), showing adequate reliability and validity for the population in the original and subsequent studies (Kiang et al. 2016; Thompson et al. 2016). Participants were asked “How often do you feel that your ethnicity leads people to automatically assume that you are...” and used a 5-point Likert-type scale (1 = *never* to 5 = *all the time*) to rate nine characteristics (e.g., intelligent, quiet, hardworking) reflective of the stereotype. Responses were again recoded to a 0–4 scale, with higher scores reflecting greater perceptions of stereotyping ($\alpha = 0.76$ – 0.84).

Peer relationships

An adapted Network of Relationships Inventory (NRI; Furman and Buhrmester 1985, 2009) was used to assess quality of peer relationships. Two subscales were used: support and criticism. As adapted for this study, the support subscale addressed emotional support, comfort, and dependability in peer relationships (e.g., “How often do you turn to these people for support with personal problems?”).

The criticism subscale covered the frequency of critical comments (e.g., “How often do these people say mean or harsh things to you?”). Each subscale consisted of three items. Participants used a 5-point rating scale (1 = *little or none*, 2 = *somewhat*, 3 = *very much*, 4 = *extremely much*, 5 = *the most*) (α s = 0.83–0.94 across subscales and waves). Participants were asked to separately rate relationships with Asian peers, White peers, and other-minority peers (e.g., African American, Latinx), resulting in a total of 27 items.

Results

Descriptive Statistics & Bivariate Correlations

Data were analyzed using HLM 7.01 and SPSS 25. Ranges of means and standard deviations for study variables across waves, as well as bivariate correlations between person-level averages of variables, can be seen in Table 1. As shown, correlations between discrimination and MMS, and the peer relationship variables varied according to interaction partner, with discrimination associated with criticism from Asian peers and MMS positively associated with support from Asian and White peers. Support from Asian peers was not associated with any of the other friendship variables, and criticism from Asian peers was only associated with criticism from White peers. Support and criticism from White and Other peers were both associated with friendship variables in relation to both White and Other peers. While these correlates of person-level averages are suggestive, the hierarchical linear modeling tests described below examine within-person associations between these variables.

HLM Model Design

All primary goals were then tested in the same models, with the models varying only in the specific relationship variable tested: analyses explored MMS, discrimination, the interaction between MMS and discrimination, and time as predictors of the quality of participants’ relationships (i.e., support and criticism) with same-ethnic (i.e., Asian), White or European American, and other-ethnic minority peers. Hierarchical linear modeling (HLM; Bryk and Raudenbush 1992) was used because it allowed us to examine within-person associations. Gender and generation were included as predictors on the intercept and the slopes. The following model was tested, separately for the two relationship dimensions, for each relationship partner (6 models total):

$$\text{Relationship}_{ij} = b_{0j} + b_{1j}(\text{MMS}) + b_{2j}(\text{Discrimination}) + b_{3j}(\text{MMS} * \text{Discrimination}) + b_{4j}(\text{Time}) + e_i \quad (1)$$

Table 1 Bivariate correlations of between-person averages

Variable	Disc.	MMS	Support: Asian Peers	Support: White Peers	Support: Other Peers	Criticism: Asian Peers	Criticism: White Peers	Criticism: Other Peers
Discrimination	–							
Model Minority Stereotype	–0.02	–						
Support: Asian Peers	0.10	0.26***	–					
Support: White Peers	–0.06	0.29***	0.13	–				
Support: Other Peers	–0.07	0.12	0.06	0.50***	–			
Criticism: Asian Peers	0.32***	0.02	0.03	0.00	–0.06	–		
Criticism: White Peers	0.01	0.20*	0.11	0.78***	0.30***	0.18*	–	
Criticism: Other Peers	–0.02	0.04	0.00	0.35***	0.70***	0.10	0.58***	–
Mean (SD)	1.11 (0.78)	2.87 (0.64)	3.55 (1.12)	2.82 (1.03)	2.31 (0.87)	2.01 (0.82)	2.46 (0.87)	2.07 (0.70)

N = 175

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 2 Hierarchical linear models predicting relationship quality with Asian peers from model minority stereotyping (mms), discrimination, and their interaction

	Support <i>b</i> (<i>SE</i>)	Criticism <i>b</i> (<i>SE</i>)
Intercept	3.61 (0.11)***	2.09 (0.08)***
US born	0.41 (0.28)	−0.17 (0.23)
Gender	−0.09 (0.23)	0.16 (0.15)
Discrimination	0.10 (0.07)	0.27 (0.07)***
US born	−0.13 (0.14)	−0.16 (0.17)
Gender	0.24 (0.13) ⁺	−0.27 (0.13)*
MMS	0.28 (0.09)**	0.10 (0.07)
US born	−0.46 (0.17)**	−0.17 (0.15)
Gender	−0.04 (0.15)	−0.17 (0.15)
MMS × Disc.	0.10 (0.09)	−0.06 (0.10)
US born	0.07 (0.15)	−0.24 (0.15)
Gender	−0.21 (0.15)	−0.08 (0.21)
Time	−0.03 (0.05)	−0.05 (0.04)
US born	−0.05 (0.12)	−0.03 (0.12)
Gender	−0.06 (0.11)	−0.07 (0.08)

US born is coded as 0 = immigrant (foreign-born) and 1 = non-immigrant (US born) and gender is coded as 0 = female and 1 = male. Both are centered at the mean of the sample. Model minority stereotyping (MMS) and discrimination were centered prior to creation of the interaction term. Time was uncentered, with the intercept at tenth grade

⁺ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

$$b_{0j} = c_{00} + c_{01}(\text{Gender}) + c_{02}(\text{Generation}) + u_{0j}, \quad (2)$$

$$b_{1j} = c_{10} + c_{11}(\text{Gender}) + c_{12}(\text{Generation}) + u_{1j}, \quad (3)$$

$$b_{2j} = c_{20} + c_{21}(\text{Gender}) + c_{22}(\text{Generation}) + u_{2j}, \quad (4)$$

$$b_{3j} = c_{30} + c_{31}(\text{Gender}) + c_{32}(\text{Generation}) + u_{3j}, \quad (5)$$

$$b_{4j} = c_{40} + c_{41}(\text{Gender}) + c_{42}(\text{Generation}) + u_{4j}. \quad (6)$$

As shown in Eq. (1), relationship quality in a particular year (*i*) for a particular individual (*j*) was modeled as a function of the individual's average relationship quality (b_{0j}), one's perception of the model minority stereotype that year (b_{1j}), discrimination that year (b_{2j}), the interaction between MMS and discrimination (b_{3j}), and the year of the study (b_{4j}). MMS and discrimination were centered prior to the creation of the interaction term. Time was coded as tenth grade = 0, eleventh grade = 1, twelfth grade = 2, one year after high school = 3, and was uncentered. Equations (2)–(6) show how the average relationship quality and the effects of the Level 1 predictors were modeled as a function of gender and generational status. These level two variables were grand mean centered. Gender was coded as females = 0 and males = 1, and US-born was coded as 0 = first-

Table 3 Hierarchical linear models predicting relationship quality with white peers from model minority stereotyping (MMS), discrimination, and their interaction

	Support <i>b</i> (<i>SE</i>)	Criticism <i>b</i> (<i>SE</i>)
Intercept	2.80 (0.10)***	3.11 (0.10)***
US born	0.11 (0.23)	0.03 (0.25)
Gender	−0.01 (0.19)	−0.01 (0.21)
Discrimination	−0.04 (0.07)	0.13 (0.06)*
US born	−0.33 (0.16)*	−0.23 (0.14)
Gender	0.16 (0.13)	0.07 (0.12)
MMS	0.22 (0.08)**	0.17 (0.07)*
US born	−0.28 (0.19)	0.02 (0.16)
Gender	−0.25 (0.18)	−0.10 (0.16)
MMS × Disc.	0.10 (0.08)	0.17 (0.08)*
US Born	0.13 (0.17)	0.04 (0.15)
Gender	−0.02 (0.19)	0.08 (0.17)
Time	0.01 (0.06)	−0.53 (0.05)***
US Born	0.11 (0.23)	−0.07 (0.12)
Gender	−0.01 (0.19)	0.10 (0.11)

US born is coded as 0 = immigrant (foreign-born) and 1 = non-immigrant (US born) and gender is coded as 0 = female and 1 = male. Both are centered at the mean of the sample. Model minority stereotyping (MMS) and discrimination were centered prior to creation of the interaction term. Time was uncentered, with the intercept at tenth grade

⁺ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

generation immigrant or foreign-born and 1 = second-generation non-immigrant or born in the USA.

In these models, Level 2 variances were initially constrained to zero because there were more Level 1 parameters than time points. A two-step process was used to select the most parsimonious models (see Bryk and Raudenbush 1992). First, all Level 2 variance parameters were fixed to equal zero except for that of the baseline. Freed parameters were kept only when a likelihood ratio test indicated a significantly improved model fit (i.e., $p < 0.05$) (see Nishina and Juvonen 2005). Using this method, variance for the MMS was freed for Asian peers: criticism. Variance for time was freed for White peers: criticism and other-ethnic peers: criticism. For all remaining analyses, no parameters beyond baseline were freed.

Change in Relationships Over Time

As shown in Tables 2–4, linear change over time in peer relationships varied according to the relationship partner and subscale. For relationships with Asian peers, neither support nor criticism changed over time. For relationships with White peers, support did not change over time although criticism decreased over time. Similarly, for relationships with peers from other-ethnic backgrounds, support

Table 4 Hierarchical linear models predicting relationship quality with other-ethnic minority peers from model minority stereotyping (MMS), discrimination, and their interaction

	Support <i>b</i> (<i>SE</i>)	Criticism <i>b</i> (<i>SE</i>)
Intercept	2.30 (0.09)***	2.45 (0.10)***
US born	−0.25 (0.23)	−0.23 (0.24)
Gender	−0.20 (0.18)	−0.17 (0.19)
Discrimination	−0.10 (0.06)+	0.07 (0.05)
US born	−0.19 (0.17)	−0.08 (0.12)
Gender	−0.06 (0.11)	−0.11 (0.10)
MMS	0.14 (0.08)+	0.11 (0.07)
US born	−0.22 (0.18)	−0.07 (0.15)
Gender	−0.05 (0.19)	0.14 (0.15)
MMS × Disc.	−0.06 (0.08)	0.01 (0.08)
US Born	0.08 (0.18)	0.18 (0.13)
Gender	−0.27 (0.18)	−0.07 (0.15)
Time	0.01 (0.06)	−0.30 (0.05)***
US born	0.13 (0.14)	0.06 (0.14)
Gender	0.16 (0.12)	0.14 (0.11)

US born is coded as 0 = immigrant (foreign-born) and 1 = non-immigrant (US born) and gender is coded as 0 = female and 1 = male. Both are centered at the mean of the sample. Model minority stereotyping (MMS) and discrimination were centered prior to creation of the interaction term. Time was uncentered, with the intercept at tenth grade

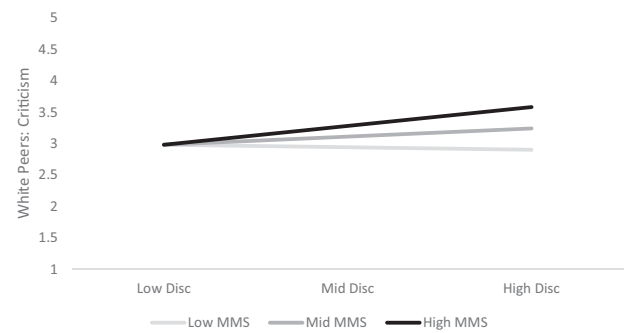
+ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

did not change over time, and criticism decreased over time. Gender and generation moderators were not significant for any of these associations.

Associations Between Peer Relationships, Discrimination, & the MMS

Patterns of association between relationships, discrimination, and the MMS varied across relationship partners, as shown in Tables 2–4. With regard to discrimination, discrimination experiences were not associated with support from Asian peers and were marginally associated with decreased support from other-ethnic minority peers. For White peers, there was an interaction with generation, with those who were US-born showing a more negative association between discrimination and support than those who were not US-born. Discrimination was also positively associated with criticism from both Asian and White peers, but not other-ethnic minority peers. The criticism effect was moderated by gender for Asian peers, with the effect being significant only for girls.

With regard to model minority stereotyping, in years when the MMS was higher, support was also higher with both Asian and White peers; however, this association was moderated by generation for Asian peers, with the association only significant for foreign-born youth. For other-ethnic minority peers, the MMS was marginally associated

**Fig. 1** Interaction between model minority stereotyping (MMS) and discrimination in predicting criticism in relationships with White peers

with greater support. For criticism, in years when the MMS was higher, criticism from White peers was also higher. The MMS was not associated with criticism from Asian or other-ethnic minority peers.

In addition to these main effects of discrimination and MMS, as shown in Fig. 1, there was also a significant interaction found between the MMS and discrimination on criticism from White peers. As shown, the effect of discrimination was higher at increasing levels of the MMS. There was not a significant interaction between MMS and discrimination for either of the relationship characteristics with Asian peers or other-ethnic minority peers.

Discussion

Toxic environmental factors, such as discrimination, clearly do detriment to inter-ethnic friendships (e.g., Greene et al. 2006). For youth from Asian backgrounds, the model minority stereotype may also serve as a subtle agent influencing their friend circles. The purpose of this study was twofold. It explored the quality of Asian Americans' peer relationships with those of different ethnic groups across the high school period. The study also investigated the independent and interactive associations of discrimination and model minority stereotyping with changes in peer relationships over time. Overall, findings show improving relationships with peers of various ethnicity throughout development; however, reported discrimination and model minority stereotyping influenced the quality of these relationships in unique ways.

General Trends in Peer Relationships

Regarding the general evolution of relationships, the data suggest differing trends for peers of various ethnicities. Support was not reported to change over time with any peer group, while criticism decreased over time from White and other-ethnic minority peers. While Asian youth may have a high ratio of same-ethnic friends (Hamm et al. 2005),

personality research suggests that openness to experience generally improves over time for young adults (e.g., Robins et al. 2001). Indeed, openness to cross-ethnic interactions increases as minority youth mature (Hamm and Coleman 2001), which aligns with current findings. As students aged in the study, they may have been exposed to broader contexts (e.g., part-time jobs, college) and social circles. Per Allport (Pettigrew 1998), such conditions may allow for positive, cross-ethnic contact and thus decreased cross-ethnic criticism.

Discrimination & Peer Relationships

Although reported criticism from White peers decreased overall, yearly increases in perceived discrimination were associated with yearly increases in criticism from White peers, as expected. Furthermore, US-born adolescents (relative to non-US born) who experienced more discrimination also reported less support from White peers. Social adjustment difficulties have been the unfortunate, but logical, sequelae of discrimination (e.g., Lee 2003, 2005). If adolescents feel misunderstood or threatened by majority group peers, it follows that they would develop more negative relationships with them. Furthermore, if the discrimination reported by the present sample was perpetrated specifically by peers, as found in previous studies (e.g., Rosenbloom and Way 2004), peer discrimination may directly overlap with criticism. With regard to the moderator effect, the greater sensitivity of second-generation youth to discrimination was predicted based on past work (Liang et al. 2007). It is likely that participants more familiar with or invested in American social strata may be more attuned to the subtleties of discrimination by the majority group.

Against expectations, yearly increases in discrimination were also associated with yearly increases in criticism from Asian peers, but this effect was only significant for female participants. In some instances, discrimination may be harmful to in-group identification and affiliation in adolescence. Some youth may be most comfortable with the status quo of the majority and may critique their own heritage (Atkinson 2004). Discrimination has led some to engage in distancing, victim-blaming, criticism, and rejection of their own ethnic group (Way et al. 2008), and in general, relational aggression of this type tends to be more common among young females (Bowie 2007). Thus, in an environment with a significant amount of racial discrimination, members of the targeted group may be more critical of each other, whether by way of internalized racism (Pyke and Dang 2003) or social monitoring to avoid further discriminatory experiences. However, it is also possible that the discrimination was perpetrated by same-ethnic peers. In this case, peer discrimination may again directly overlap with criticism.

Also against expectations, discrimination demonstrated somewhat limited associations with peer relationship variables with other-ethnic minority peers. There was no association

with criticism and only a marginal negative association with support. One interpretation may be that discrimination may primarily create tensions with the groups previously mentioned (White and Asian peers). Throughout history, and perhaps as experienced in adolescents' schools, social hierarchies have placed White, Asian, and other students of color in precarious positions and systems of support and opposition (Gould 1996). The likely nuance and complexity of Asian Americans' peer relationships with other minorities suggests an important area in need of further research. This study provides some initial insight into these processes as participants often found themselves in schools with relatively low Asian populations. In such contexts, non-Asian minority peers may effectively serve as an in-group, facing similar majority group oppression and serving as a neutral party to strain between White and Asian youth. However, other interpretations may be that the grouping of a variety of other ethnic groups (e.g., African American, Latinx) into the "other minority" categorization or even limited contacts with peers of other minority groups may have muddied discernable trends. Thus, future work may well consider finer grained measures of relationship factors across different ethnic groups.

The Model Minority Stereotype & Peer Relationships

This study generally confirmed hypotheses of the model minority stereotype as a social paradox. The stereotype was associated with positive social indicators of relationship quality within all three peer groups. These findings align with attribution theory, which suggests that internal, stable attributions (e.g., a stereotype) for positive behavior may cause people to behave in more trusting and friendly ways toward Asian American youth (Reyna 2000), possibly leading to more congenial peer relationships. Hence, a positive stereotype could function as a self-fulfilling prophecy. It should be noted that, for Asian peers, greater stereotyping experiences were only associated with support for first generation youth. Again, foreign-born or less acculturated youth may interpret their discrimination and stereotyping experiences differently (Liang et al. 2007). Some youth have viewed the model minority image positively (Thompson and Kiang 2010) and may internalize the stereotype (Atkin et al. 2018), causing them to find cultural pride and affiliate with their group.

Lest this finding mask the challenges of cross-ethnic friendships, yearly increases in stereotyping were also associated with yearly increases in criticism from White peers. Such findings speak to the core of the model minority image as a "back-handed" compliment. Past research has shown that explicit positive stereotypes are often accompanied by derogatory undertones (Fiske et al. 2002). "Women are perceived as warm but weak, Asians as competent but cold, and [African Americans] as athletic but

unintelligent” (Czopp 2008, p. 414). Asian American youth may be pigeonholed as intelligent but unathletic, hard-working but interpersonally deficient, or polite but overly passive. Thus, “positive” stereotypes become microaggressions, or “verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults toward people of color” (Sue et al. 2007, p. 273). With such constraining, mixed messages, it makes sense that Asian youth may feel both supported and denigrated by peers throughout their social development.

The Model Minority Stereotype & Discrimination

This mixed model minority message is further reinforced by results of an interaction in which the negative social effect of discrimination (criticism) was compounded when greater stereotyping experiences were also present, but only for White peers. It should be noted that this finding was one significant interaction out of six conducted, and thus, may be spurious. However, such a finding is consistent with past work showing more positive relationships between Asian and European American young adults (Bikmen 2011), while they still lack close affiliation seen in same-ethnic friendships (Kao and Joyner 2004). Asian American teens may be caught in a social limbo: they perceive that they are valued by majority group peers, but also are still kept at arm’s length over time, labeled as outsiders with limitations (Wong et al. 2012). Thus, while seemingly complimentary, the model minority stereotype operates to preserve the status quo social hierarchies of adolescence and Asian Americans’ position within them as “almost white” (Cabrera 2014).

Overall, this study adds to the understanding of adolescent development by shedding light on how youth from minority backgrounds process the widely varying race- and ethnicity-based messages they receive on a daily basis. Although the model minority stereotype may appear innocuous relative to blatant discriminatory acts, positive stereotypes are not without risks. While youth might feel supported by the model minority image and similar positive stereotypes, they may simultaneously feel criticized by their peers. Such is a nature of a microaggression (Sue et al. 2007). Given that teens are striving for identity (Erikson 1968) and searching for frequent social feedback during this formative time, such messages may have long-ranging implications for how youth view themselves and how they relate to others. As such, researchers would do well to continue to take a broad view of the factors shaping youth social development, as well as what constitutes discrimination and ethnic stereotyping.

Serious consideration of positive stereotyping also has practical implications for youth interactions. While school staff are more likely to intervene in the instance of blunt

discrimination (e.g., a racial slur), an instance of “joking” with an Asian American about being good at math has high potential to be dismissed as harmless. In fact, teachers, themselves, might be more likely to confirm or express positive stereotypes about Asian Americans (Chang and Demyan 2007), considering such comments less offensive. Thus, just as there are prevention programs in schools on the topics of bullying, substance abuse, or unsafe sex behavior, it may be beneficial to explicitly talk to students and staff about the dangers of all types of ethnic stereotyping in order to promote healthy peer networks and positive school environments. Furthermore, positive contact between people of different ethnicities is a key ingredient toward better inter-group relationships (Pettigrew 1998) and decreasing negative social artifacts of group distance, like discrimination and stereotyping. Systemic changes may be necessary to introduce true integration in classrooms and extracurricular activities to provide youth with safe, constructive, and inclusive settings to be themselves, break the molds of stereotypes, and build genuine friendships.

Limitations

Several limitations of this study would make productive areas of follow-up inquiry. First, measurement improvements could be undertaken. Sources of discrimination or stereotyping were not assessed in this study. Past research has shown that minority youth experience bias from multiple sources (e.g., peers, teachers, other adults), from diverse ethnicities, and in a variety of settings, such as in school, online (Umaña-Taylor et al. 2015), and in the community (Niwa et al. 2014). The source of discrimination may (Benner and Graham 2013) or may not (Benner et al. 2018) dictate different negative effects for psychosocial outcomes; however, past work has successfully used non-source specific discrimination measures to determine meaningful relationships with adjustment outcomes (e.g., Juang and Cookston 2009). Furthermore, no known work has investigated different perpetrators of model minority stereotyping, specifically. This study also used exclusively self-report measures, which do not control for factors, such as shared method variance, reporter bias, or random responding. Future studies could incorporate profile validity checks, qualitative interviews, other rating sources (e.g., teachers, parents, friends), or observations to build converging evidence. A variety of perspectives may be especially important because the discrimination experiences of Asian American adolescents may not be as readily recognized as racially motivated or derogatory due to the model minority stereotype (Sue et al. 2007).

Additionally, there were not sufficient data to break down analyses by participants’ specific ethnic backgrounds or by schools. Grouping individuals from widely varying

national and cultural origins under the pan-ethnic “Asian American” label can be both artificial and inaccurate (Kao and Joyner 2006). The model minority stereotype may be experienced differently by those from different cultural and national origins (Ngo and Lee 2007). Additionally, different schools may have provided varying peer contexts due to their differences in SES, ethnic diversity, and academic quality. Future extensions could focus on the experiences of specific groups (e.g., Japanese American, Indian American, Montagnard American) regarding stereotyping experiences, peer nomination data to clarify the actual ethnic composition of peer circles, and school-nested analyses to improve both precision and applicability of results.

Finally, continuing longitudinal work is important to extend this work. The sample consisted of a unique Asian American community in the Southeastern USA. A preponderance of studies have been conducted in regions with high ethnic diversity and concentrations of Asian Americans, and those in new and emerging immigrant communities may have unique experiences (Kiang and Supple 2016). However, the results are limited in generalizability. Given the literature showing that ethnic compositions of schools may dictate opportunities for cross-ethnic friendships (Bellmore et al. 2007), data from regions with different ethnic, socioeconomic, and political compositions will create a more balanced knowledge base.

Conclusion

Adolescence is a period rife with social categorization (Fuligni et al. 2008), and social stereotyping likely serves as a steering factor in intergroup peer relationships for youth from minority backgrounds. While prior scholarship has done much to document the negative impacts of ethnicity-based discrimination on peer relationships, little work has addressed “positive” stereotyping, such as the model minority image. This study addressed this gap by examining the quality of Asian American adolescents’ peer relationships over time and how perceived discrimination and model minority stereotyping differentially influenced these relationships. Findings indicated that Asian teens’ relationships with peers of different ethnicities tend to improve over the high school years. Discrimination was, unsurprisingly noted to hinder the quality of peer relationships over time. Yet, youth reporting model minority stereotyping felt both supported by peers and criticized, by White peers in particular. As such, the model minority stereotype and other “positive” stereotypes may be just as likely to create strained relationships for adolescents over time as the more traditional conception of discrimination. A positive ethnic stereotype and discrimination may well operate as two sides of the same coin. In order to promote cross-ethnic friendships, youth social development, and general societal kinship, the MMS needs to

become a regular part of the dialog in research, the media, the home, and the classroom.

Authors’ Contributions T.L.T. conceived of the study, participated in study design, collected data, interpreted results, and drafted manuscript; L.K. assisted in conceiving study and its design, collected data, and made substantial revisions to manuscript; M.R.W. assisted in study design, designed and executed data analysis, and drafted results. All authors read and approved the final manuscript.

Data Sharing and Declaration The datasets generated during and/or analyzed during the current study are not publicly available due to institutional restrictions. However, they, along with analytic methods and study materials, can be shared upon reasonable request.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures were conducted in compliance with the ethical standards of the American Psychological Association and approved by Wake Forest University’s Institutional Review Board.

Informed Consent To participate, all students were required to return signed parental consent and adolescent assent forms.

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