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Stability of interracial and intraracial romantic relationships among adolescents[☆]

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Abstract

Using data from the National Longitudinal Study of Adolescent Health (or Add Health), a nationally representative sample of adolescents in 1994–1995, we compare the stability of interracial and intraracial dating relationships among white, black, Hispanic, Asian, and Native American adolescents by using Cox Regression Models and Multiple Imputation techniques that correct for missing data problems. We find that adolescents who are involved in interracial relationships are more likely to terminate their relationships than their counterparts involved in intraracial relationships even after we adjust for individual, relationship and social network factors. Without Multiple Imputation techniques for missing data, we find no difference in relationship stability between interracial and intraracial couples. We demonstrate that adolescents involved in interracial romance are less likely to reveal their relationships to their families, to the public eye and less likely to meet their partners' parents. These patterns suggest

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that interracial relationships are less likely than intraracial relationships to be supported by significant others.

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1. Introduction

Montgomery and Sorell (1998) argue that early romantic experience plays a central role in the development of adolescent's self-identity and capacity for intimacy. They emphasize the importance of adolescents' early foray into romantic relationships for the development of a healthy personality and healthy interpersonal behaviors. Moreover, these early romantic experience may shape the course of subsequent romantic relationships and marriages in adulthood.

About 36% of youth aged 14–17 are members of an ethnic minority group. As the ethnic and racial diversity of US increases, the odds of interracial dating among adolescents will likely increase. However, what is unclear is whether racial boundaries will become more porous with greater diversity. The emergence of interracial relationships not only reveals interactions across group boundaries, it also implies that for some racial group members, race is not the primary sorting mechanism for choosing a romantic partner. The number and the stability of interracial romantic relationships can give us a glimpse into the future of race relations in US. Moreover, intimate relationships during youth can provide the basis of positive attitudes about other groups as these youths become adults (Allport, 1954; Emerson et al., 2002).

Several scholars demonstrate an apparent decline in overt discrimination and a dramatic reduction in all dimensions of racial intolerance over the past few decades (Wong, 1989). For instance, the desegregation of schools promotes interracial interaction and facilitates the elimination of racial stigma, which, in turn would foster greater racial integration in society as a whole. In addition, the increasing popularity of cultural pluralism may decrease the social distance among persons of different ethnic backgrounds (Tzeng, 1996).

Given the increased number of adolescents involved in interracial dating combined with the minimal amount of research on them, it is imperative for adolescent relationship researchers to better understand adolescent interracial dating (Shibazaki and Brennan, 1998). Interracial dating among youth may lead to adult interracial marriage. For instance, Hispanics who have prior interracial contacts are three times more likely to engage in interracial marriage than their counterparts without prior interracial contacts; For African Americans, it is seven times greater (Emerson et al., 2002). The significant increase in the number of interracial marriage and dating implies a greater tolerance toward relationships between people of different race (Lewis et al., 1997; McNamara et al., 1999). But the increase in the number of interracial dating itself cannot reflect the integration of racial minorities into American life. If interracial relationships are less stable than intraracial relationships, than this suggests that even individuals who decide to cross racial boundaries are susceptible to greater stress on their relationships.

In this study, we apply a Cox Regression Model to examine the effect of interracial dating on relationship stability. The employment of a Cox Regression Model takes censoring into account while estimating the effect of interracial dating on relationship stability. Censoring occurs while the adolescents are still in the relationship by the end of the survey. We only know that the occurrence of the dissolution is beyond the last observation date for the censoring cases assuming that there is a breakup. In the present study, 54% of our cases are still in their listed relationships by the end of the survey, therefore, these cases are censored.

Most research on interracial relationship stability has focused on the dissolution of interracial marriage. Relatively little attention had been paid to interracial dating, much less on the study of relationship stability for adolescents who date member of other racial group, due perhaps to the tenure nature of dating (Dornbusch, 1989). Therefore much of the information regarding interracial dating had been extrapolated from the literature on interracial marriage.

2. Literature review

Based on the interpersonal process model that argues that relationship dynamics are complex and need to be analyzed from different conceptual levels (Cate et al., 2000), we examine the effect of interracial dating on relationship stability while controlling for three different level of factors: individual, relationship, and social network factors. Most previous studies focus mainly on individual or dyadic factors that affect relationship stability and neglect the impact of the social context in which the relationship occurs. In this literature review, all the factors that affect relationship stability are organized along three conceptual levels: individual factors, relationship factors, and social network factors.

2.1. Individual factors

Some researchers believe that some individuals are more prone to experience a short-lived relationship than others (Felmlee et al., 1990).

2.1.1. Self-esteem

The findings on the effect of self-esteem on relationship stability are inconsistent. For instance, Felmlee et al. (1990) find that self-esteem does not predict relationship stability. Shibazaki and Brennan (1998) find that individuals involved in interracial dating relationships report lower levels of self-esteem than their counterparts engaged in intraracial romantic relationships. We hypothesize that adolescents who have high self-esteem and possess agreeable personalities are more likely to establish and maintain an enduring relationship.

2.1.2. Generational status

First generation adolescents are less acculturated and may exhibit stronger ethnic identity than adolescents of second or third generation. In other words, generational

status can be used as a marker for acculturation and it has been found to be closely related to the rate of interracial dating, with later generations more likely to be involved in interracial dating and less likely to terminate their romantic relationships (Gurung and Duong, 1999).

2.2. Relationship factors

2.2.1. Relationship satisfaction

According to the interdependence theory, attraction to and satisfaction with a relationship is a major determinant of relationship stability (Simpson, 1987). Shibazaki and Brennan (1998) found that for individual involved in interracial dating, relationship satisfaction was significantly associated with approval from parents, friends, and the public. For those dating within their own groups, relationship satisfaction was significantly associated with approval from parents and friends but not with the general public. As expected, they found that those involved in interracial relationships perceived less approval from the public than those engaged in intraracial relationships. Surprisingly they find that interracial dating and intraracial dating couples entered the relationship for similar reasons and reported similar levels of relationship satisfaction.

2.2.2. Commitment

According to the investment model (Cate et al., 2000), three different levels of commitment are operative in relationships: personal commitment to the partner and relationship, structural commitment, and moral commitment. Personal commitment includes the attraction to the partner and attraction to the relationship and the definition of self in terms of the relationship. Structural commitment consists of irretrievable investment, social pressure to remain in the relationship, the difficulty of ending the relationship and the availability of alternatives. The moral commitment incorporates the value of consistency, values that support the stability of the relationship and a sense of obligation to stay with a partner. Personal commitment reflects the choice in a relationship, structural and moral commitment implies the constraints in the relationship (Cate et al., 2000).

Gurung and Duong (1999) argue that individual involved in interracial relationships may be less committed to their relationships due to strong societal disapproval of interracial dating as they would perceive fewer barriers to dissolution and may even be urged to terminate their relationship by friends and family members who are against interracial relationships. We hypothesize that individuals involved in interracial relationships may exhibit less structural commitment to their relationship since they perceive less social pressure to stay in the relationship.

2.2.3. Sexual intimacy

The findings on the effect of sexual intimacy on relationship stability are mixed. Several previous studies find that sexual involvement has opposing effects on relationship stability. On the one hand, having sex might intensify an individual's commitment to the relationship (Simpson, 1987), on the other hand, it might intensify the

conflicts in the relationship (Rostosky et al., 2000; Simpson, 1987). Peplau et al. (1977) report that neither relationship quality nor the timing of sexual intercourse predicts the stability of the relationship. The majority of previous studies define adolescent sexual behavior as a social problem that has negative consequence on adolescents' development (Welsh et al., 2000; Wilcox, 1999). Other scholars argue that sexual expression in adolescence is normative and may even be associated with desirable outcomes such as increased capacity for intimacy, self-disclosure, self-expansion, integration, and relationship satisfaction and maintenance. They also emphasize that those positive outcomes are more likely to occur in relational context that is perceived as supportive, intimate, and egalitarian (Rostosky et al., 2000).

We hypothesize that adolescents who engaged in intimate sexual behaviors such as kissing, holding hands, and touching with or without clothes on frequently are more likely to have stable relationships than their counterparts who feel less close to their partners.

2.3. Social network factors

Interracial marriages last a shorter time than intraracial marriage on average. Fu (2000) reports that interracial marriages are, on average, 24% more likely to end in divorce than in-group marriages. Interracial marriages are less stable than intraracial marriage because people involved in interracial marriages have to overcome the opposition from family and society to make their marriage successful (Lewis et al., 1997). External factors such as family and society are cited as the primary deterrents to involvement in interracial romantic relationships (Harris and Kalbfleisch, 2000).

2.3.1. Family opposition

It seems as if most groups, including whites, blacks, Hispanics or Asians, prefer that their members dating or marrying within their racial or ethnic groups. Individuals who intermarry often are ostracized from their family of origin (Gaines, 2001). Mok (1999) argues that parental objection has been proved to be the most prominent obstacle in pursuing and maintaining an interracial relationship. Felmlee et al. (1990) find that the likelihood that a relationship ends at any point in time decreases with an increase in the level of social support from the subject's own family and friends as well as from their partners' family and friends. We hypothesize that adolescents in an interracial relationship perceive less support from their families than adolescents in intraracial relationships, therefore, they are more likely to experience relationship dissolution.

2.3.2. Societal opposition

Interracial marriage appears to invoke a level of societal opposition that is reflective of the history of racial hierarchies in US. Negative attitudes toward interracial marriage from both majority and minority racial groups members have provided the formidable psychological and emotional barriers to interracial contact, contributing to the maintenance of a racially stratified society (Lewis and Yancey, 1995). Individuals who date outside their racial or ethnic group report lower levels of societal

approval of their relationships than do individuals who date within their ethnic groups (Gaines, 2001). A majority of the interracial couples reported stares, negative comments and slurs in public areas (Jean, 1998). Both parties involved in interracial relationships experience pressure from the larger society and in order to function, isolate themselves from the public. Accordingly, the couples appeared to be involved in two separate but conflicted worlds: one public, the other private. “The split is reflected in a dubious, two sided identity. One identity reserved for the public world is based on their physical appearance or pigmentation. The other identity, their intermarriage, an essential part of their private life-is seldom revealed to outsiders for fear of consequence” (Jean, 1998, p. 406). To make their relationship successful, individuals involved in interracial relationships must learn how to manage public harassment such as evaluative, hostile, and discriminatory actions from strangers in the public. We hypothesize that there is a positive association between societal approval and the longevity of the dating relationship.

3. Method

3.1. Samples

In the present study, we use data from Wave I In-Home sample of the National Longitudinal Study of Adolescent Health (Add Health) to examine the relationship stability of a nationally representative group of US adolescents. Add Health first selected 134 schools from a database of US schools stratified on school size, region of US, urbanicity, school type, and racial mix. These schools were selected with a probability proportional to size. From these schools, Add Health selected a subgroup of 20,745 adolescents who were in grades 7–12 to conduct an in-home interview sometime between September 1994 and April 1995. Of these students, 48% were involved in a romantic relationship at some point in the 18 months that preceded the interview. We selected our sample of romantically involved adolescents based on several screening questions. First, we selected those who answered ‘yes’ to the question “in the last 18 months, have you had a special romantic relationship with any one? For those who answered ‘no’ to the above question but answered ‘yes’ to all of the following four questions such as whether they ever held hands with someone or kissed someone on the mouth who was not a member of their families, or ever told someone that they liked or loved them and they did all these things with the same person we included them in our sample. We omitted all of the multiracial respondents who identified with more than two racial identities except for Hispanics. This was done because it is difficult to determine whether someone who, for instance, is Asian-white is in an interracial romantic relationship. In the present study, we only focus on respondents who report having romantic partners of the opposite sex.

The mean age of the total sample is 16 and 4969 male and 5126 female engaged in a romantic relationship. Out of 10,095 adolescent, 6307 are white (62.48%), 2421 are black (23.98%), 815 are Hispanic (8.07%), 505 are Asian (5%), and 47 are Native Americans (0.47%). Twelve percent of adolescents are involved in interracial romantic relationships.

Table 1
Racial identity of respondents and their romantic partners

Respondent's race	Partner's race					Row total
	White	Black	Hispanic	Asian	Native American	
White %	93.66	1.93	3.02	0.94	0.46	62.48
N	5907	122	190	59	29	6307
Black	4.42	90.83	3.34	0.33	1.07	23.98
	107	2199	81	8	26	2421
Hispanic	29.2	6.13	60.25	2.58	1.84	8.07
	238	50	491	21	15	815
Asian	15.25	3.17	5.54	75.25	0.79	5
	77	16	28	380	4	505
Native American	53.19	8.51	12.77	2.13	23.4	0.47
	25	4	6	1	11	47
Column total	62.94	23.68	7.89	4.65	0.84	100
	6354	2391	796	469	85	10,095

According to Table 1, 7% of white, 10% of black, 40% of Hispanic, and 25% of Asian are involved in an interracial dating relationship. These percentages are calculated based on the information provided by the respondents about their first romantic partner.

3.2. Measurement

Table 2 examines the differences between adolescents in interracial versus intraracial relationships. On average, interracial relationships are shorter in duration than intraracial relationships. However, this may be due to differences in the characteristics of the relationship, not simply the racial differences or similarities between the partners. To examine this potential, we compare the characteristics of individuals and their relationships by their racial status. Overall, we find little difference in the characteristics of respondents and their relationships. There are several exceptions to this general pattern. We find that adolescents in interracial relationships report lower self-esteem, lower levels of commitment displayed in public, are less likely to have talked to their mothers about their partners, and are less likely to report that they have met their partner's parents. We describe these in greater detail below.

3.3. Outcome variables

3.3.1. Relationship duration

Four questions were asked to measure the duration of romantic relationships. Two of them measured the beginning of the relationship: 'In what month did you relationship with {initials} begin?' and the other was 'In what year did your relationship with {initials} begin?' Two other questions measured the end of the relationship: 'In what month did your relationship end?' and 'In what year did you relationship

Table 2
Means and standard deviations of independent variables

Variable	Intraracial dating		Interracial dating	
	Mean	SD	Mean	SD
Relationship duration	15.64	16.31	15.24	16.03
Individual factors				
Self-esteem	4.09	0.58	4.04	0.60
Agreeable personality	2.38	0.70	2.40	0.72
Relationship factors				
Commitment showed in public	2.97	1.08	2.85	1.12
Intimacy	3.05	1.70	2.99	1.71
Ever had sex	0.54	0.50	0.54	0.50
Social network factors				
Talking mom about their dates	0.60	0.49	0.53	0.50
Relationship with mother	4.15	0.73	4.08	0.73
No. of friends who know about relationship	2.35	1.19	2.40	1.18
Ever met parents	0.76	0.43	0.69	0.46
Talked about date with others	0.86	0.35	0.82	0.39
Demographic Variables				
Male	0.49	0.50	0.54	0.50
Age	15.98	1.62	15.90	1.69
Generational status				
First generation	0.05	0.23	0.11	0.31
Second generation	0.05	0.21	0.12	0.32
Mother's education	2.98	1.21	2.94	1.27
Have one serious relationship	0.54	0.50	0.55	0.50

end?' According to Table 2, the mean relationship duration is 15.64 months for intraracial couples and 15.24 for interracial couples for those who experience a relationship disruption.

3.3.2. Missing data problem

Unfortunately, 28.45% of our sample did not report in what month their relationships began and 25.36% did not know in what year their relationship began. 9.60% did not know in what month their relationship ended and 8.11% did not know in what year their relationship ended. Using conventional methods of dealing with the missing data such as complete case analysis or available case analysis, we lose about 57% cases in calculating the relationship duration. The loss of so many cases leads to less efficient and probably biased estimates of the effect of interracial dating on relationship stability. Single imputation, yet another prevalent way to deal with missing data is problematic in the sense that the single imputed value does not adequately reflect the uncertainty of the missing data. In other words, any analysis that fails to take the uncertainty of missing data into account will overstate precision and underestimate the standard errors, and *p* values. Consequently the rates of Type I error are higher than the nominal level. Inferences generated from single

imputations are not valid. In the present study, we apply Multiple Imputation (MI) to impute the missing values on relationship duration conditioned on the observed values in the data set. MI is a Monte Carlo technique in which each missing value is replaced by $m > 1$ simulated values, where m is usually small (3–10). In multiple imputations, each missing datum is replaced by $m > 1$ plausible values drawn from the predictive distribution of missing data under the appropriate data model and the missing data mechanism. The m completed data sets are analyzed separately by any standard statistical method and the results are combined to produce the overall inference that taking the missing data uncertainties into account by applying Rubin's combining formula (Rubin, 1987). Interestingly, the results obtained from complete case analysis are different from those we obtain after applying multiple imputation technique.

3.4. Independent variables

3.4.1. Interracial dating

If the relationship reported by the respondent is with a partner of a different racial group, then we refer to this as interracial dating. Gurung and Duong (1999) argue that members of different ethnic groups are assumed to hold different expectations for relationships and dissimilar expectations are believed to predict dissatisfaction. Individuals involved in interracial relationships are more likely to experience dissatisfying relationships.

There are three levels of other independent variables: individual, relationship, and social network.

3.5. Individual level factors

3.5.1. Self-esteem

We take the mean of six items to create this scale. These six items asked the respondents whether they had a lot of good qualities, whether they were physically fit, had a lot to be proud of, liked themselves just the way they were, they felt like that they were doing everything just about right and they felt socially accepted and they felt loved and wanted. All these five items have response categories ranged from 1 (strongly disagree) to 5 (strongly agree). The α coefficient for this scale is .85. According to Table 2, for adolescents who engaged in intraracial dating relationship, their mean score of self-esteem is 4.09 and 4.04 for those who involved in interracial dating relationships. This difference is small but statistically significant.

3.5.2. Agreeable personality

The respondents were asked whether they ever argued with anyone, whether they ever got sad, and whether they ever criticized other people. The α coefficient for this scale is .59. According to Table 2, the mean score for the scale of agreeable personality is 2.38 for adolescents engaged in intraracial dating relationships and 2.40 for adolescents involved in interracial dating relationships. This difference is not statistically significant.

3.6. Relationship factors

Ten items are used in the present study to measure adolescents' commitment to the romantic relationship. Each of these 10 items are phrased in the form of a question, which asks the respondent to state the degree to which he or she committed to their romantic relationship in public and their sexual intimacy.

3.6.1. Public display

Respondents were asked whether they went out together in a group; saw less of their other friends to spend more time with their partners, went out together alone, and held hands. We took the sum of these four items to create a scale of public display of their romantic feelings toward each other. The α coefficient for this scale is .53. According to Table 2, the mean score for public display is 2.97 for adolescents in intraracial relationships and 2.85 for adolescents in interracial relationships, suggesting that adolescents who dated someone from other racial groups are significantly less likely to make a public demonstration of the commitment to their relationship than their counterparts engaged in intraracial dating relationships. This difference is statistically significant.

3.6.2. Sexual intimacy

Respondents were asked five questions regarding their sexual intimacy such as whether they kissed, touched each other under their clothes or with no clothes on, talked about contraception and sexually transmitted diseases, had sexual intercourse and touched each other's genitals. We take the sum of these six items to construct a scale for sexual intimacy. The α coefficient for this scale is .80. According to Table 2, in-group dated adolescents score slightly higher in the score of intimacy than out-group dated adolescents but this difference is not significant.

3.6.3. Ever had sex

Respondents are asked whether they ever had sexual intercourse or not. It is a dummy variable. According to Table 2, the mean score of the single-item variable-ever had sex is the same for adolescents in interracial relationships and intraracial relationships. As we already mentioned in the literature review, the findings of the effect of sexual intercourse on relationship stability are mixed. The majority of previous researches deem adolescent sexual behavior as a social problem that has negative effect on adolescent's development (Welsh et al., 2000; Wilcox, 1999). Rostosky et al. (2000) argue that sexual expression in adolescence is normative and might enhance adolescents' capacity for intimacy, self-disclosure, and personal growth.

3.7. Social network factors

3.7.1. Talking with their mother about their partners

Respondents were asked whether they talked with their mother about their date or a party they went to. Talking with their mother about their date is used as a proxy to measure family approval of their dating relationship. We assume that adolescents are

not willing to disclose their inner feeling of romantic love to their mothers unless they perceive that their partner will be well accepted by the family. As we mentioned in the literature review, [Felmlee et al. \(1990\)](#) argue that a relationship is less likely to experience disruption if it receives support from subjects' own family and friends as well as from their partners' friends and family. According to [Table 2](#), adolescents engaged in interracial relationships are significantly less likely to talking with their mother about their partners than those involved in intraracial relationships.

3.7.2. Respondent's relationship with mother

As we mentioned in the literature review, [Montemayor et al. \(1994\)](#) finds that there is a positive relationship between the mother–adolescent bond and the influences the mother has on adolescents' dating behaviors. They point out that adolescents who maintain a constructive and close relationship with their parents are more likely to form a secure attachment with their romantic partners. Five questions were asked to measure the relationship between respondents and their mother. Adolescents provide answers to five questions to measure whether they felt their mother was warm, loving, supportive, communicative, and overall, whether they were satisfied with the relationship with their mother.

3.7.3. Number of friends who knows their partners

Respondents were asked how many of their close friends knew their partners when they started the relationship with their partners. [Sprecher and Felmlee \(1992\)](#) believe that relationship develop as partners reduce uncertainty about each other and one way to reduce uncertainty is go gain approval from their own or their partners' social network. We treated the variable of the number of friends knowing their partner as a proxy for peer approval for the romantic relationship.

3.7.4. Whether respondents meet their partners' parents

Respondents were asked whether they met their partners' parents. This variable is used as a proxy to measure the support received from the partner's social network.

3.7.5. Telling other people that they are a couple

Respondents were asked whether they told other people about their dates. We assume that respondents are not willing to discuss their romantic lives with other people unless they perceive that their romantic partners are well accepted by other people.

3.8. Demographic characteristics

We also examine six demographic characteristics of respondents including age, sex, racial identity, generational status, dating frequency, and their mother's education. We assume that adolescents are capable of establishing and maintaining meaningful and enduring relationship as they mature and females are better at maintaining relationships than males in general. Also we assume that minority adolescents possess strong ethnic identity and are more likely to experience relationship

Table 3
Cox regression models predicting relationship dissolution using multiple imputation for missing data

Independent variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	Est.	HR	Est.	HR	Est.	HR	Est.	HR	Est.	HR
Interracial dating	.10*	1.11	.12*	1.13	.11*	1.12	.11*	1.12	.10*	1.11
	(.030)		(.015)		(.026)		(.030)		(.037)	
Race/Ethnicity										
Black			-.51***	.60	-.49***	.61	-.45***	.64	-.47***	.63
			(.000)		(.000)		(.000)		(.000)	
Hispanic			-.25***	.78	-.23***	.79	-.24***	.79	-.26***	.77
			(.000)		(.001)		(.001)		(.000)	
Asian			-.11	.90	-.11	.90	-.13	.88	-.19*	.83
			(.200)		(.192)		(.143)		(.026)	
Native American			-.14	.87	-.13	.88	-.11	.90	-.19	.83
			(.511)		(.549)		(.608)		(.382)	
Male			.20***	1.22	.23***	1.26	.23***	1.26	.21***	1.23
			(.000)		(.000)		(.000)		(.000)	
Age			-.14***	.87	-.15***	.86	-.08***	.92	-.06***	.94
			(.000)		(.000)		(.000)		(.000)	
Generational status										
First generation			.24**	1.27	.24**	1.27	.16*	1.17	.16*	1.17
			(.003)		(.003)		(.043)		(.054)	
Second generatio			.21**	1.23	.21**	1.23	.20*	1.22	.20*	1.22
			(.006)		(.006)		(.011)		(.013)	
Mother's education			.06***	1.06	.06***	1.06	.05***	1.05	.06***	1.06
			(.000)		(.000)		(.000)		(.000)	
Have one serious relationship			-.62***	.54	-.62***	.54	-.58***	.56	-.58***	.60
			(.000)		(.000)		(.000)		(.000)	

Individual level factors						
Self-esteem	−.07** (.008)	.93	−.09* (.002)	.91	−.08** (.006)	.92
Agreeable personality	−.07** (.002)	.93	−.09*** (.001)	.91	−.09*** (.001)	.91
Relationship factors						
Commitment showed in public			−.07 (.000)	.93	−.05** (.009)	.95
Intimacy			−.09*** (.000)	.91	−.08*** (.000)	.92
Ever had sex			−.23*** (.000)	.79	−.23*** (.000)	.79
Social network factors						
Talking to mom about their dates					−.13*** (.000)	.88
Relationship with mother					.01 (.718)	1.01
Number of friends who know about relationship					−.03* (.021)	.97
Ever met parents					−.24*** (.000)	.79
Talked about date with others					.08 (.140)	1.08

Abbreviations: Est. = Estimate; HR = Hazard Rate.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

disruption if they involved in interracial dating relationships. Gurung and Duong (1999) suggest that generational status can be used as a marker for acculturation and adolescents of the third generation are less likely to terminate their relationship than their counterparts of the first or the second generation if they engaged in interracial dating relationships.

4. Findings

Table 3 presents estimates from Cox Regression Models to take the censoring into account while calculating the estimates for our independent variables as well as other important covariates. A sample of 10,095 adolescents was asked to provide information on the beginning and ending date of their romantic relationship. Forty-seven percent of them were still in the relationship by the end of the observation. These cases are right censored. The only information we know about the ending of their relationship is that it is beyond the largest observed date. The event of interest is the termination of the relationship. The aim was to examine the effect of interracial dating on the occurrence and timing of dissolution while adjusting for other demographic, individual, relationship, and social network factors.

The dependent variable in the Cox Regression Model is the hazard rate $h(t)$, defined as the instantaneous risk that an event will occur at time t . The main advantage of a Cox Regression Model is that it utilizes all the information available. Positive values for the parameters in the hazard model show the amount by which one unit increase in an covariate increases the logged hazard rate at which the relationship break up. Negative values show that one unit increase in the covariate decrease the logged hazard rate for relationship break-up. Antilogs of the parameters can be calculated to determine the effect of the covariate on the actual rather than the logged hazard rate. A unit increase in the covariate multiplies the hazard rate by the value of the corresponding antilog parameter. We estimate five different models to examine the effect of interracial dating on relationship stability under different contexts.

As the first step, we estimate a bivariate Cox regression model with the major independent variable-interracial dating. We find that being in an interracial relationship has a significant negative effect on relationship stability. In other words, adolescents who engaged in interracial dating relationships are 11% more likely to dissolve the relationship than their counterparts involved in the intraracial dating relationships at any point in time. In addition, we estimate four other models, adding individual factors, relationship factors, and social network factors.

As the second step, we examine the effect of interracial dating on relationship stability after adjusting for a set of demographic variables such as respondents' age, gender, racial identity, generational status, dating frequency, and their mother's education. We find that interracial dating still significantly affects relationship stability after we control for a set of demographic variables. Interracial dating relationships are 11% more likely to break up than intraracial dating relationship after we control for respondents' age, gender, racial identity, generational status, dating frequency, and mother's education.

The average relationship duration is 19 months for blacks, 15 months for whites, and 16 months for both blacks and whites. Also, 56% of black adolescents are still in the relationship by the end of the observation compared to 44% of white adolescents. We find that there is no significant difference on relationship duration between blacks in intraracial and interracial dating relationships. In other words, the average relationship duration is the same for intraracial dating blacks and interracial dating blacks. As for white adolescents, the average relationship duration for those involved in the interracial dating relationships is 12 months and 14 months for those engaged in the intraracial relationships, but this difference is not statistically significant. Asians are 10% less likely to experience relationship disruption than whites, this difference is not statistically significant. Not surprisingly, males are 22% more likely to experience relationship disruption at any point in time than females. Recall that our males and females are not necessarily in relationships with each other. Older adolescents are less likely to break up with their dating partners than younger ones. One unit increase in age causes a 13% decrease in the dissolution rate. In consistent with our hypothesis, we find that adolescents of the first and second generation are more likely to break up with their partners at any point in time than their counterparts of the third generation. Also, we find that adolescents who are currently in their first relationship are almost 50% less likely to terminate the relationship than their counterparts who have had other relationships. Adolescents in interracial relationships and those in intraracial relationships do not differ in the average number of partners they have ever had. Adolescents whose mothers have more years of education are more likely to have short-term relationships than their counterparts whose mother are less well-educated.

As the third step, we examine the effect of individual factors on relationship stability. [Felmlee et al. \(1990\)](#) believe that individual factors are significant predictors of relationship stability but others do not find any association between individual factors and relationship stability ([Cate et al., 2000](#)). According to [Table 3](#), interracial dating still has a negative significant effect on relationship stability after we control for demographic as well as two other individual level independent variables. Interracial dating is still 11% more likely to dissolve than intraracial dating at any point in time after we adjust for a set of demographic and individual level variables. Inconsistent with the findings of [Cate et al. \(2000\)](#), we find that adolescents who report higher self-esteem are less likely to experience relationship disruption than their counterparts who score low in self-esteem. A one-unit increase in the scale for self-esteem and agreeable personality decreases the termination rate about 7% at any point in time. In other words, adolescents who possess high self-esteem and agreeable personality are more likely to establish enduring relationships. The effects of other controlling variables do not change much after we enter two individual factors into the third model.

As the forth step, in addition to the individual factors, we examine the effect of relationship factors such as commitment to relationship displayed in public, sexual intimacy, and ever had sex on relationship stability. The effect of interracial dating is still significant after we enter another set of relationship factors.

Adolescents involved in interracial dating are 12% more likely to experience relationship disruption than their counterparts engaged in intraracial dating after we enter a set of demographic variables, individual factors, and relationship factors. Cate et al. (2000) define three levels of commitment: personal commitment, structural commitment, and moral commitment and they believe there is a positive association between commitment to the relationship and the longevity of the relationship. We find that for those who show more public expression of the commitment to their relationships are less likely to experience relationship disruption than their counterparts who keep the romantic relationships to themselves. Interestingly, adolescents involved in interracial dating are less likely to make a public statement of their romantic relationship than their counterparts engaged in intraracial dating (refer to Table 2).

In consistent with the previous studies (Rostosky et al., 2000; Kawaguchi et al., 1997) we find that the more the adolescents engaged in sexual intimate activities such as kissing, holding hands, touch each other with or without clothes on, the less likely that they will dissolve their relationships.

The findings of the effect of ever had sex on relationship stability is mixed. Rostosky et al. (2000) report sexual intercourse is associated with perceptions of higher levels of conflicts. Other scholars believe that the occurrence of sexual intercourse might intensify an individual's commitment to the relationship (Rostosky et al., 2000; Simpson, 1987). We find that dating relationships which include sex are more stable than those without sex. One unit increase in the scale for sexual intimacy such as kissing, holding hands, and touching each other with or without clothes on reduces the dissolution rate by about 9% and if ever had sex with the partner leads to a substantial reduction in the dissolution rate (21%). Recall that in Table 2, we find no significant difference in the occurrence of sexual intercourse between intraracial and interracial dating couples.

As the final step, we examine whether the additional set of social network factors can explain away the difference in relationship stability existed between interracial and intraracial couples. Interracial dating relationships are still 11% more likely to dissolve than intraracial dating relationship at any point in time after we control for demographic variables, individual factors, relationship factors as well as social network factors.

Most previous studies proved a positive association between support from family and friends and the development and longevity of romantic relationships (Holland and Leinhardt, 1970; Parks et al., 1983). Also according to Montemayor et al. (1994), adolescents who have a close and constructive relationship with their parents are more likely to be securely attached to their romantic partners. Inconsistent with Montemayor's study, we find no effect of closeness to mothers on relationship stability. There is a minor effect of the number of friends knowing their partners on relationship stability. On average, about 2–3 friends know their dating partners. The more the number of friends knows the adolescent's partner, the less likely he/she would experience relationship disruption. There is a substantial effect of talking to mothers about their dates on adolescent's relationship stability. In other words, if the adolescents talked with their moms about their partners, they are 27% less likely to

terminate their relationships. We assume that adolescents are not willing to discuss their romantic lives with their mothers unless they perceive that their partners will be accepted by their families. Meanwhile, we find a positive association between meeting partner's parents and the longevity of romantic relationships. In other words, adolescents who have met their partners' parents are 21% less likely to terminate the relationship. We find no effect of telling other people of their dates on relationship stability although adolescents who engaged in interracial dating relationships are significantly less likely to tell other people about their dates than their in-group dating counterparts.

Results from the fifth model are different before and after we apply Multiple Imputation techniques. With complete case analysis, we find that there is no significant effect of interracial dating on relationship stability after we enter a set of demographic variables, individual factors, relationship factors as well as social network factors into the fifth model. We would have erroneously concluded that the negative effect of interracial dating on relationship stability could be attributed to the set of social network factors had we not applied multiple imputation techniques.

5. Discussions

We find that interracial couples are still 11% more likely to experience relationship disruption at any point in time than intraracial couples after we adjust for three levels of control variables as well as some demographic variables. We find little difference in the characteristics of respondents and their relationships when compare the characteristics of individuals and their relationships by their racial status. There are several exceptions to this general pattern. Adolescents who engaged in interracial dating relationships are more likely to keep the relationships to themselves than their counterparts involved in intraracial relationships. Also, adolescents with interracial partners are less likely to display commitment to their relationship in public and less willing to talk to their mother and other people about their romantic lives. Adolescents engaged in interracial dating relationships are less likely to meet their partner's parents than their counterparts involved in the intraracial romantic relationships. These findings suggest that the interracial dating is not well accepted by society in general and by families of adolescents in particular. In other words, adolescents with interracial partners are less likely to make structural or moral commitment than adolescents with intraracial partners.

Inconsistent with the findings from some previous studies, we find that individual factors such as self-esteem and agreeable personality have significant positive effect on relationship stability. In other words, adolescents with higher self-esteem and agreeable personality are less likely to experience relationship disruption than their counterparts with lower self-esteem and less agreeable personality. Not surprisingly, individual-level factors do not explain away the difference in relationship stability between interracial and intraracial couples.

We find that the relationship factors such as commitment showed in public, sexual intimacy and ever had sex have substantial positive effect on relationship stability.

Adolescents who are more likely to make public demonstration of their romantic feelings, who are experiencing more sexual intimacy and ever had sex before are less likely to experience relationship disruption. Also the addition of relationship characteristics also do not explain away the difference of relationship stability between interracial and intraracial couples.

Finally we find that most of our network factors have significant positive effects on relationship stability. For instance, adolescents who are more likely to talk to their mother about their partners, who have more friends who know their partners, and who have met their partner's parents are less likely to experience relationship disruption. Surprisingly we find that the individual factors, the relationship factors and the network factors do not account for differences in the stability of interracial and intraracial couples. We assume adolescents from different racial groups possess different values, norms and expectations for romantic love, instead of receiving support in the process of adjusting to each other's culture, and these factors may lead to greater dissolution rate.

In conclusion, using a Cox Regression Model that accounts for censoring and applying multiple imputation technique to handle the severe missing data problem in our study, we find that adolescents who engaged in interracial dating relationships are more likely to terminate their relationship than those who involved in intraracial relationships even after we enter all the demographic variables, individual factors, relationship factors, and social network factors. In other words, when using Multiple Imputation, we find that interracial relationships are less stable and that this finding is consistent with the literature on interracial marriage.

Our findings suggest that adolescents face many of the same barriers to interracial contact as their adult counterparts in more committed relationships, such as marriage. One might expect that dating during the teenage years is a casual experience that is less constrained by societal norms; while the higher rates of interracial dating (compared to marriage) suggests that this is true, it is only true to a certain extent. In the end, we find greater stresses on interracial romantic couples than their intraracial counterparts, and with MI techniques, we find that interracial relationships are shorter in duration and that these couples experience higher rates of dissolution.

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