

**Parental Education and College Students' Attitudes toward Love:
Survey Evidence from China***

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Word Counts (including references): 9803

No. of Tables: 4

No. of Figures: 1

This Version: 7-8-2018

* We appreciate the editing of Cindy Glovinsky for this working paper.

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Abstract

Objective: This study examines the correlation between parental education and college attendees' attitudes toward love (ATL), as well as its formative mechanism.

Background: Family formation in modern societies mostly involves the couple's matching attitudes toward love (ATL), but studies of the determinants of those attitudes have not much advanced over several decades.

Method: Panel data from the random probability sample of the Beijing College Students Panel Survey (the sample size refers to 2,473 baseline survey respondents who enrolled in 2009 and were followed for four years. The population is the college attendees in Beijing, China) are used to analyze a gradational measure of ATL. The random-effects linear regression model and the mediation analyses are adopted.

Results: Students with better-educated parents are more likely to lean toward realistic rather than romantic ATL. The effect does not differ between male and female students, and is stable across college years. Mediation analyses further highlight that parental education propels college students to be more realistic mainly through promoting family income and fostering children's endowment of objectified cultural capital.

Conclusion: Both economic and cultural factors bridge parental education and adult children's ATL.

Implications: ATL serves as a mechanism for maintaining assortative mating by family socio-economic status, which further supports intergenerational transmission of economic advantages.

Key Words: Attitudes toward Love (ATL); China; College Students; Parental Education

Introduction

Sociologists of family have long noted the great influence parents exert on their children (Conger, Conger, & Martin, 2010; Roest, 2009). This is especially the case as the children approach adulthood and are involved in intimate relationships, courtships, and unions. A variety of parental characteristics have been shown to be linked to adult children's dispositions toward premarital sex and cohabitation (Cunningham & Thornton, 2006; Thornton & Camburn, 1987; Bersamin et al., 2008), family formation (Axinn & Thornton, 1993, 1996), divorce (Amato, 1996; Amato & DeBoer, 2001), fertility (Musick, 2002), gender role expectations (Cunningham 2001; Moen, Erickson, & Dempster-McClain, 1997), and other attitudes.

Despite the well-documented significance of parents in shaping children's family lives, recent research has paid little attention to attitudes toward love (ATL), a theme that has not advanced much beyond the early work in the 1960s (e.g., Hinkle & Sparakowski, 1975; Knox & Sparakowski, 1968). ATL takes in perceptions, orientation, norms, and values pertaining to the meaning of love. It is a crucial factor in the quality of intimate relationship, in initiating attraction, in satisfaction with courtship, and in the likelihood of making a formal commitment (Knee, 1998; Sprecher & Metts, 1999; Wilson & Huston, 2013). In an era when freedom in choosing a mate and partner idealization have become principles in many parts of the world (Cherlin, 2012; Goode, 1959, 1963; Rosenblatt & Cosby, 1972; Meier et al., 2009), ATL and its potential association with family background should be of great interest to family scholars.

Drawing on previous work, a gradational measure of ATL is established in this study which helps reveal the extent to which an individual subscribes to realistic or romantic ATL (e.g., Hopkins, 2014; Knox & Sparakowski, 1968). Romantic attitudes emphasize love's exciting and thrilling aspects, that love comes only once and that love is the only pillar of

marriage. Realistic attitudes, in contrast, refer to a practical, solid, and calm disposition toward affection, being more aware and acknowledging the importance of a prospective partner's practical status for love's lasting. Using the gradational measure of ATL, the study investigates whether parental socio-economic status relates to the ATL of college students in China, and if yes, what formative mechanism comes into play. Specifically, we proxy parental socioeconomic status with parental educational attainment. Although family income is also an indicator of family advantages, in a market-oriented society it is the result of parental education, so we view it as a potential mediator.

This study provides several possible theoretical contributions to the field of family sociology. First, as mentioned earlier, the literature on ATL has not advanced much since the 1960s, but comprehensive societal transitions across the world thereafter have been observed in terms of gender ideologies, attitudes toward union formation, social stratification, and so forth (e.g., Fischer & Hout, 2006). In this regard, this article highlights parental potential influences on children's ATL in a new era, extending early investigations.

Second, the subject of the nexus between parental education and adult children's ATL concerns theoretical debates between social closure theory (Parkin, 1974; Weber, 1978) and post-materialist theory (Inglehart, 1971, 1977, 1990). By juxtaposing and testing hypotheses derived from these theories, this study presents evidence to support one theoretical approach, thus bettering our understanding of the family-based stratification of subjective attitudes toward love.

Third, ATL serves as one important determinant of one's marital preferences, so its connection with parental education provides one inter-generational perspective on the pattern of assortative mating (Han, 2010; Qian & Qian, 2017). Also, the nature of ATL – romantic or realistic – driven by parental socio-economic status explains inter-generational transmission of class advantages, i.e., those from better-off families may be more likely to marry

individuals with good economic prospects based on their ATL, maintaining or expanding household socio-economic advantages across the generations.

Lastly, family is not only an economic unit but also the foundation of early socialization. Hence, the potential link between parental education and children's ATL could be mediated by multiple mechanisms. By employing mediation analyses, we illustrate these mediators, which supplements the previous literature, in which the formative mechanisms were largely speculative and thus elusive (Hinkle & Sparakowski, 1975; Knox & Sparakowski, 1968).

Theoretical Framework

Social Closure Theory versus Post-Materialist Theory

We draw on two theories to understand the relationship between parental education and children's ATL. Social closure theory originates from and extends Weber's seminal discussions of the distinction between open and closed relationships. It postulates that people belonging to a group with a particular status (the well-educated, for example) are inclined to set up barriers which make entry exclusive, limited and subject to conditions (Parkin, 1974; Weber, 1978). One well-documented mechanism for maintaining a group's status closure is mate selection (Glass, 1954). Individuals with an advantaged status are inclined to encourage their children to select prospective spouses from similarly advantaged backgrounds (Smits, 2003; Smits et al., 1998; Smits & Park, 2009). Following this line of thinking, dispositions in mate selection such as ATL are not personal choices, but driven by existing stratification structures. Those with well-educated parents could be socialized to favor partners whose socio-cultural backgrounds match their own, resulting in a more realistic attitude toward love.

It is necessary to mention that status closure is also motivated by a desire to maintain the standard of consumption. As suggested by the economic-demographic research (England & Farkas, 1986; Becker, 1991), children from economically advantaged families have, on

average, a higher than average standard of consumption (Easterlin, 1976). Accordingly, when they ponder the meaning of love in courtship, the motive to retain a high consumption standard should encourage them to be more realistic.

A second theory accounting for the association between parental education and children's ATL is post-materialism. A materialist orientation, by definition, emphasizes economic wellbeing, but post-materialist values take economic security for granted and focus instead on the quality and the aesthetic aspects of life (Inglehart, 1971, 1977, 1990). It has been shown that post-materialism can be cultivated in an affluent family environment (Flouri, 1999; Inglehart, 1990). Since romantic love represents one important aspect of the post-materialist ideal (Jones, 1997; Thin, 2011) and since well-educated parents are more capable of providing their children with a financially secure environment, the children of better-educated parents should be more likely to embrace romantic rather than realistic ATL. Furthermore, educational attainment *per se* can foster a post-materialist orientation (Inglehart, 1977; De Graaf & De Graaf, 1988; Rohrschneider, 1990). So there are good reasons to expect that well-educated parents are themselves more likely to advocate romantic ATL, which, through socialization, they can transmit to their children (Kasser et al., 1995; Kroh, 2009; Marks, 1997).

Although post-materialist theory hypothesizes that those with better-educated parents are more likely to advocate romantic ATL, this does not mean that romantic ideas about love are diffused among the higher educated in today's world. In China, for example, the idea of romantic love has diffused across all layers of society. The point of post-materialist theory is that people from different family backgrounds do not embrace romantic love to the same extent.

In sum, these two theories suggest competing hypotheses. The social closure theory postulates that children with better-educated parents are more likely to be realistic rather than

romantic in terms of their ATL. In contrast, post-materialist theory postulates that better-educated parents are more likely to imbue their children with romantic rather than realistic attitude.

Mediators between Parental Education and Children's ATL

Research findings suggest that parents' educational attainment can be correlated with children's ATL through multiple avenues (Amato & Ochiltree, 1986; Keijer, Nagel, & Liefbroer, 2016). First, both the social closure and post-materialism theories emphasize the mediating role of a family's economic resources. Better-educated parents are more likely to afford children with affluent growth circumstances, which could promote realistic ATL by encouraging the children to maintain their status, or promote romantic ATL by cultivating a post-materialist orientation. In the case of children from disadvantaged families, they could be propelled to be more realistic in search of upward social mobility, improving their access to life's chances via marriage (e.g., Kurz & Muller, 1987).

Secondly, sociological studies have shown that family differentiation is not only material, but also symbolic. The latter is captured by the concept of cultural capital. Cultural capital is defined in terms of cultural signals such as attitudes, preferences, formal knowledge, behavior, goods, and credentials (Lamont & Lareau, 1988) and is differentiated by family background in the sense that children of better-educated parents tend to have access to more cultural capital as they have better access to highbrow articles and activities (Bourdieu & Passeron, 1977). Seen from the status closure perspective, cultural capital could facilitate realistic ATL because sustaining one's cultural capital requires material resources (DiMaggio & Useem, 1978). Therefore, more realistic attitudes toward love might be adopted to maintain a cultured self-perception and identity. Conversely, the post-materialist line of

thinking sees children endowed with more cultural capital as more likely to take economic security for granted and to emphasize the passionate, fanciful, and emotional aspects of love.

A third consideration is that parental education is likely to influence children's dating experiences. Well-educated parents are more likely to deploy a liberal and authoritative style of parenting (Baumrind, 1978; Lyngstad, 2004). Children raised in that way show more independence and initiative in their private lives (Gonzalez, Holbein, & Quilter, 2002). They are more likely to initiate close relationships earlier than those who are raised by more conservative parents, as Owen and colleagues have confirmed empirically (Owen et al., 2010). Early dating experiences can, of course, contribute to either realistic or romantic ATL. On the one hand, experiencing a close relationship before attending college can familiarize one with the challenges inherent in interdependence (e.g., breakup), which should shape and direct one's ATL in the direction of greater realism (e.g., Sprecher & Metts, 1999). On the other hand, early dating experiences may give rise to intense romantic love if they can encourage one to be more serious and ready for further commitment (Frazier & Esterly, 1990).

A final potential mediator involves children's marital expectations. Children with better-educated parents tend to have stronger educational and career aspirations (Dubow, Boxer, & Huesmann, 2009; Hill et al., 2004; Mooyaart & Liefbroer, 2016; Schoon & Parsons, 2002; Sewell & Shah, 1968). As a result, relative to the counterparts with less-educated parents, they are more ready for extended schooling and occupational training, and more inclined to postpone forming a permanent union (Blossfeld & Huinink, 1991; Gierveld et al., 1991). This expected delay in union formation has been shown to be associated with more practical ATL (Blossfeld, 2009).

To summarize, the competing hypothesized directions of the link between parental education and children's ATL can be mediated by multiple factors, including family

economic resources, cultural capital, dating experiences, and marital expectations. China today has alarming disparities in household socio-economic status (Jin & Xie, 2017), emerging significance of cultural capital (Hu & Wu, 2018), notable variations in parenting practices by social origin (Xu et al., 2005), and a well-documented prevalence of late marriage (Yu & Xie, 2015). All of those features make contemporary China a place where the mediating mechanisms might be especially relevant and a good setting for this study. To do so, it is necessary to give readers the proper perspective by introducing the social background of China.

Gender Difference and Longitudinal Pattern

It has been noted that in a close relationship, women are more practical while men are more romantic (Schmitt 2003). This gender difference could be attributed to a difference in the influences of parents. For example, some previous studies show that daughters are more submissive and responsive to parents while sons comply less (e.g., Douvan and Adelson 1966), and parents monitor girls' behavior more closely than that of sons (e.g., Gecas and Seff 1990). As a result, the link between parental education and children's ATL, if any, should be stronger among females than among males.

Another possible pattern is that the strength of the association between parental education and children's ATL might longitudinally decline because of the gradual maturity and independence of adult children (Knox & Sporakowski, 1968).

Attitudes toward Love in China: A Socio-historical Overview

There have been only scant studies of ATL in Chinese society, but the society's comprehensive transformation over the past century singles out several discernable historical

stages that have implications for young people's ATL and their connection with family background.

It is widely known that the Chinese tradition of arranged marriages featured arbitrary family dictates and the suppression of romantic love (Grant, 1976; Hsu, 1981; Xu & Whyte, 1990). It was traditionally believed that arranged marriage was necessary for marital stability because the emotions and affections in a romantic relationship could sway youths and shake the stability of a union (Xu & Whyte, 1990). In addition, the realistic orientation was driven by the fact that marriage in China traditionally represented "...an alliance between two kin groups [with] repercussions on social standing" (Yan, 2002: 29). Because of the societal significances, people felt they could not afford to allow marriage to be driven mostly by passion (Grant, 1976; Hsu, 1981). In this system, youths had almost no say in their courtship.

That realistic orientation of the arranged marriage, however, was denounced as China became exposed to Western civilization in the early 19th century (Pa, 1933). For instance, The May Fourth Movement in 1919 was a nationwide social movement which aimed to modernize Chinese society in emulation of the Meiji restoration in Japan. It challenged many traditional Chinese values, including arranged marriage. Pan has described the May Fourth Movement as the moment when true love came to China. During that movement, Chinese intellectuals came to regard freedom in love as a symbol of equality and as a weapon against feudalism and hypocrisy (Karandashev, 2017).

Arranged marriage was thoroughly undermined when the communist government promulgated a new marriage law in 1950, which, with the assistance of political propaganda, effectively implemented the principle of free choice of partners and the equality between men and women nationwide (Cong, 2016). Unsurprisingly, the law promoted romantic love and suppressed realistic considerations in mate selection. Besides legal endeavors, many other social changes helped inspire romantic attitudes and discourage realism. For instance, the

socialist transformation undermined the economic foundation of patriarchal authority (Bramall, 2009; Parish & Whyte, 1978; Xu & Whyte, 1990; Whyte & Parish, 1984). The young benefited from the expanded free public education, and many of them were able to obtain economic independence by working for the state or a collective workforce (Bian, 1994). In addition, conscious “de-stratification” policies tried to reduce or eliminate social inequalities, curtailing pragmatic motives in mate selection (Parish, 1984).

Despite the favorable environment for romantic love during the socialist era, it is necessary to note that people’s courtship and family lives were heavily politicized (Glosser, 2003). As Karandashev (2017) has shown, what went with the liberalization and equalization of union formation was the state’s strong influence on the meaning of love and control over sexual activity (Diamant, 2000; Lee, 2007), i.e., steering ATL toward altruistic morality, and emphasizing shared values, commitment to work, and sexual primness (Honig & Hershatter, 1988). It is thus not surprising that a public dating culture never developed during the socialist period, not to mention premarital sex (Xu & Whyte, 1990). At most, young people might meet each other secretly, which served as a kind of quasi-dating practice (e.g., Chapter 8 in Jankowiak, 1993). It is also necessary to mention that although practical considerations were discouraged in the Mao’s Era, mate choice was not entirely severed from material criteria. For instance, marriage could still function as an avenue of status mobility – i.e., to change household registration status (Qian & Qian, 2017).

The market-oriented economic reform launched in the late 1970s marks the start of a new era, which had profound impacts on Chinese citizens’ ATL. On the one hand, urbanization and population migration attenuated parental influence on children’s private lives. A new Marriage Law passed in 1980 enhanced the importance of individual choices in entering and exiting marriage. Against this background, many studies have shown that traditional patrilineal and gender values began declining (Hu & Scott, 2014), and that young people had

more freedom in courting and marriage than before (Davis, 2014; Davis & Friedman, 2014). Passionate love was no longer taboo (Honig & Hershatter, 1988; Karandashev, 2017), and the young generation gradually adopted ATL that emphasized emotional expression, romance, and sexual desire. Unsurprisingly, there are now more people engaging in premarital sex (Yan, 2002, 2003).

On the other hand, some social forces have tended to reinforce realistic considerations following the nation's market-oriented reform. Growing social inequality "re-stratified" social members, impelling the young to take into account the material prospects of a partner in order to ensure the union's economic stability (Davis & Wang, 2009; Yu & Xie, 2015). So realism is a non-negligible factor that drives marriage choices in contemporary China (Davin, 2007). According to the field research conducted by Jankowiak (2013), although young people embrace more romantic and loving sentiments throughout the dating sequence nowadays, practical concerns tend to dominate people's attitudes toward love when they approach a serious relationship.

Another social force that gives rise to realistic attitudes toward love is the transitioning gender ideologies in the market-oriented society (Ji, 2015). As a response to the obscured gender difference in the pre-reform era, recent gender discourse has been observed to restore a patriarchal gendered division of labor, in which women are relegated back to domestic affairs (Sun & Chen, 2015; Tang et al., 2009). This has been legitimized by the efficiency-oriented market logic that is prevalent in contemporary China (Wu Xiaoying, 2010). In this case, there are good reasons to expect women to be especially practical when they perceive the meaning of love because of their socio-economic disadvantage and the unstable position in the marriage market.

It should be noted that "rational" parents have not withdrawn from their children's courtships. On the contrary, they are actively involved in their children's mate selections by

either introducing potential partners or vetoing their children's choices (Pimentel, 2000; Sun, 2012; To, 2015). One thing that strengthens parents' involvement has been the one-child policy. When most parents have only a single son or daughter, they emphasize material considerations in what they see as the long-term interests of their children. Such influence from parents can be strengthened by the financial and psychological dependence of children on their parents (Davis, 2002, 2010; Honig & Hershatter, 1988). Relatively, this kind of strong involvement of parents in the only-child's mate selection was not widespread before the 1980s, because the work unit then took many childcare responsibilities off the shoulders of parents and parents had so many children to care for that they usually could not establish a strong emotional bond with a particular one.

Thus, the rapid and comprehensive social changes in China over the past century imply a state of flux in young people's ATL as well as its nexus to parental influences. While this flux reflects the varying cultural and socio-political context of the youth's courtship and marriage, scholars have never properly investigated its sociological determinants. This study was designed to fill this gap by documenting the potential role of family socioeconomic background, as embodied by parental education, in influencing children's attitudes toward love.

Hypotheses

Based on the discussions above, we propose the following hypotheses:

H1: Those with better-educated parents are more likely to be subject to realistic than romantic ATL.

Note that H1 is configured according to the social closure theory. An opposite empirical pattern would lend support to the post-materialist theory.

In addition to the basic pattern of association, we also hypothesize gender and longitudinal heterogeneities:

H2a: The link between parental education and children's ATL is stronger among females relative to males.

H2b: The strength of the link between parental education and children's ATL longitudinally declines.

Lastly, With regard to the mediation effect, we tentatively hypothesize:

H3a: Those with better-educated parents have access to more economic resources, which encourages them to be more realistic than romantic in ATL.

H3b: Those with better-educated parents have access to more cultural capital, which encourages them to be more realistic than romantic in ATL.

H3c: Those with better-educated parents have more dating experiences, which encourages them to be more realistic than romantic in ATL.

H3d: Those with better-educated parents have expectations of more delayed marriage, which encourages them to be more realistic than romantic in ATL.

Empirical Strategies

Data

This study is based on analyses of data from the Beijing College Students Panel Survey (BCSPS). The baseline survey was conducted in 2009, with the population of interest being the full-time undergraduate students at all 54 public universities affiliated with the Ministry of Education (MOE), other ministries, or the Beijing municipal government. To facilitate sampling, the BCSPS took advantage of the registration record cards for all students who were enrolled in 2009 as the sampling frame, and adopted the proportional-to-population

sampling strategy. The primary sampling units were higher education institutions, from which the secondary sampling units were fields of study.

The sampling procedure first classified all higher education institutions into six strata. The first three strata respectively corresponded to the three elite universities in Beijing: Peking University, Tsinghua University, and Renmin University of China. The remaining three strata were respectively the 211-Project universities affiliated with MOE or another ministry, non-211 Project universities affiliated with the MOE or another ministry, and institutions affiliated with the Beijing municipal government. The 211 Project was launched by the Ministry of Education in 1995 to fund about 100 of the best institutions in the 21st century. Those designated a 211-Project university are generally viewed as the best in China. In each of the first three strata, 25 majors and 20 students from each major were sampled. Six, two, and four colleges were sampled from the 211 Project universities, the non-211 Project universities, and the institutions affiliated with the Beijing municipal government, respectively. In each of these colleges, 15 majors were randomly selected, and 20 students from each major (Wu, 2017).

For the first-year college attendees in the baseline survey, the follow-up data of the BCSPS accumulated longitudinal information across the whole college education duration from 2009 to 2012. The survey's panel design accommodated potential variations in ATL across college grades, a desirable property impossible with conventional snap-shot, cross-sectional designs. The BCSPS, unlike other major surveys in China, has the merit of providing detailed items pertaining to ATL, dating experience, cultural capital, and socio-demographic background. This rendered the BCSPS a unique data source for this study. In total, it provided 9,410 longitudinal person-year records corresponding to 2,473 baseline survey respondents who enrolled in 2009. This sample size, according to the conventional

wisdom, can guarantee the statistical power of our findings, since the fitted models are relatively simple (Kraemer & Blasey, 2015).

Despite its merits, it is important to note that the survey was selective in the sense that it only examined college students in Beijing. Great caution would be essential in any attempt to generalize this study's conclusions to other populations such as those with no college education. That being said, the patterns we show are expected to shed some light on future ATL of the youth in light of the concerted expansion of higher education (Hu & Hibel, 2014; Wu Xiaogang, 2010).

Measures

A gradational measure of ATL was constructed ranging from the pole of embracing romantic-love attitudes to the pole of holding realistic-love attitudes. This gradation serves to better capture one's ATL, because in practice one's attitudes toward love cannot simply be either romantic or realistic, but mostly mixed. That is to say, ATL is differentiated in terms of the extent. Hence, a more practical measurement scheme should be configured to reveal the variations in the extent of leaning toward one particular type of ATL relative to the other, which the gradational measure was designed to do.

Constructing the scale of ATL involved three steps. First, we use a set of survey items to build the realistic and romantic ATL. For each item, a Likert option is provided, where 1=strongly disagree, 2=disagree; 3=neutral, 4= agree, and 5=strongly agree. Five items were used to gauge the realistic ATL: (1) Before I initiate an intimate relationship, I would consider the career prospects of my partner; (2) One important thing I consider when looking for a mate is his or her influence on my own career; (3) Before I initiate an intimate relationship, I would consider my partner's genetic influences on my future children; (4) Love needs a material basis, as love alone cannot last long; and (5) I would seriously consider a partner's

economic status when looking for a mate. Six other statements were used to measure the romantic ATL: (1) The fact that I do not like his or her friends does not reduce my love for him or her; (2) No matter what happens, as long as I love him or her, we will get married; (3) My world would become entirely miserable if I broke up with a partner; (4) Love is the most important thing, and nothing else is worth considering; (5) My life is meaningless if I cannot stay together with the one I love; and (6) My love cannot be shaken by dissenting opinions from my parents, relatives, and friends. These items are consistent with previous work gauging ATL (e.g., Hopkins, 2014; Knox & Sporkowski, 1968). More importantly, studies have shown that they are reliable and valid in the Chinese context (Jankowiak et al., 2015; Shao & Hu, 2013; Wang, 2006). The Cronbach's alphas of these items are shown in the Appendix 1.

In the second step the items' ratings were summed for each type of ATL. The maximum possible total score for realistic ATL is $5 \times 5 = 25$ points, and that for romantic ATL is $5 \times 6 = 30$ points. The romantic and realistic ATL were then combined into one measure. Specifically, for each respondent, the difference in their scores for the two types of ATL was computed. It was denote as $\text{Diff} = \text{realistic ATL} - \text{romantic ATL}$.

In the third step, Diff was rescaled to range between zero and one. Each value of Diff minuses the minimum and then is divided by the range. In the BCSPS data the minimum observed value of Diff is -24 and the maximum is 19, so the final scaled Diff is $\frac{\text{Diff}+24}{19+24}$. By doing so, each respondent's ATL is converted to a value between zero and one, where larger values indicated a greater likelihood of embracing realistic ATL and smaller values indicated a greater likelihood of clinging to romantic ATL. Of course, the values in between stand for differential proportions of the two types of ATL for each respondent. As one kind of data standardization, the rescaling has the merit of guaranteeing the comparability between

estimated coefficients, which stands for the effect on changes of the dependent variable in the unit of the range. Such coefficient comparison helps to understand the substantive significance of the magnitude of observed effects.

The key predictor of interest was parental education, which was quantified using the higher value of the years of formal schooling between the two parents. In the BCSPS, 55.13 percent of the respondents had parents with the same level of education, 13.19 percent had a better-educated mother, and 31.68 percent had a better-educated father. Note that the parental education data were collected in 2009, when their children started their college education.

With regard to the mediators, household economic resources were measured by the logarithm of household income in 2009. Household income is part of the information officially collected by the university in China, and students are sometimes required to check the accuracy with their parents. Two variables in the BCSPS provided information on dating experiences. One was whether or not one's first date was before attending college (1=yes, 0=no), and the other was the total number of dates the respondent had experienced in each surveyed year (a possible indicator of relationship continuity in China, where it is rare for one to simultaneously have multiple partners). Marital expectations were gauged using the expected age of marriage: "When do you think you will get married at the latest?" That question reflects expectations of the future instead of the current situation.

Lastly, two types of cultural capital were examined. Previous studies have highlighted three types of cultural capital: objectified, embodied, and institutionalized. Embodied cultural capital is one's knowledge and consciousness of high-culture signals, usually measured by one's participation in high-culture activities (e.g., Jaeger, 2009, 2011). Institutionalized cultural capital refers to a type of recognized cultural endowment, such as a credential one has received. Objectified cultural capital concerns physical objects related to high culture and is measured by the possession of cultural goods and access to learning resources (e.g., Chiu,

2010). Since the BCSPS cases are all college-educated, the study focused on objectified and embodied cultural capital. For the objectified cultural capital, a series of objects were asked about and their scores (1=yes, 0=no) were summed up: (1) a place for learning (e.g., a study), (2) newspapers, (3) an encyclopedia, dictionary or other reference books, (4) more than 50 books (excluding textbooks and tutorial books), (5) a personal room, (6) a desk, (7) a learning machine or educational software, (8) access to the internet, (9) Chinese classic literature, (10) poetry, (11) artworks, (12) a VCD or DVD player, (13) a game machine, (14) an MP3 or MP4 player, and (15) a computer. The survey of embodied cultural capital focused on four cultural activities (1=never, 2=sometimes, 3=always): (1) watching movies in a cinema, (2) watching opera or listening to music in a theater, (3) visiting a museum or exhibition, (4) going to a pop music concert. Again, the items were gauged in 2009, and their validity has been affirmed in previous studies (e.g., Hu & Wu, 2018).

The respondents' basic social and demographic characteristics were treated as control variables, including age, ethnicity (1=Han, 0=others), household registration status before attending college (1=rural, 0=urban), ranking of college (1=project 211, 0=others), and dummy variables for province where a respondent was born and for the survey year (reference=2009). The province dummies are used to control for unmeasured inter-provincial differences so as to play the role of fixed-effect (Allison, 2009). However, only time-invariant provincial characteristics are fixed.

Methodology

The panel data structure directs us to adopt the random effect modeling to examine the association between parental education and their children's ATL. Specifically,

$$ATL_{ij} = \beta_{0j} + \beta_{1j} + \beta_{2j} \times age + \beta_{3j} \times number\ of\ dates + e_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{1j} \times \text{parental education}_{2009j} + \mathbf{X}_{kj}\boldsymbol{\gamma}_{kj} + u_{0j}$$

(1)

In this model, ATL_{ij} captures the ATL score for individual j observed in year i . β_{0j} is configured as the time-invariant random effect intercept, whose overall mean is γ_{00} . Age and the number of dates are time-variant, so they are placed at the level-one model, with its coefficient denoted respectively as β_{2j} and β_{3j} . *Parental Education*_{2009j} refers to the time-invariant level of education of individual j 's parents measured in the baseline year 2009. It is placed at the level-two model, and we are especially interested in its coefficient γ_{1j} . Also to be found at the level-two model are the product of a matrix of the k time-invariant control variables and their coefficient vector $\mathbf{X}_{kj}\boldsymbol{\gamma}_{kj}$. Following the conventional practice, the random error terms e_{ij} and u_{0j} were assumed to be independent of each other with both normally distributed around zero, so $e_{ij} \sim N(0, \sigma^2)$, $u_{0j} \sim N(0, \sigma_{u0}^2)$ and $e_{ij} \perp u_{0j}$.

It is necessary to mention that the constructed ATL measure refers to the scaled difference between the two types of ATLs (realistic and romantic), which might be insufficient to accommodate the situation where one is both realistic and romantic. To check if this can be a severe concern for our analysis, two supplementary robustness analyses were conducted. One separately examines how parental education, along with other covariates, predicts the measures of realistic ATL and romantic ATL, but allowing their random errors to be correlated. This is the model called the seemingly unrelated regression model (Wooldridge, 2010). The other robustness analysis uses the latent class analysis to construct the different ATL groups, and then examine how parental education can predict this grouping identity (Hagenaars & McCutcheon, 2002). We use the latent class result based on two classes, where individuals can be neatly separated into either the class gravitating toward realistic ATL or the class leaning toward romantic ATL. Although more classes can always

improve model fit (see Appendix Table A3), this improvement is not substantial, so we keep the model with two classes.

The mediation effect was investigated using the method proposed by Imai and colleagues (2011). As they point out, conventional mediation analysis, in which a mediator is added to an OLS model and changes in the coefficient of the predictor are interpreted, is often a questionable practice. Imai and colleagues' approach explains the mechanism of any mediation from the causal inference perspective. The methodological details are set out in Appendix 2.

The random-effect linear regression model was fitted using the *xtreg* procedure in STATA, and the mediation effect was estimated using the *medeff* procedure.

Results

Descriptive Statistics

Table 1 presents descriptive information for the variables. The raw scores for the realistic and romantic ATLs are not small, suggesting that both types of ATL have a considerable number of adherents in the BCSPS sample. The scaled difference between them further indicates that many of the college students surveyed have mixed attitudes, which justifies the use of a gradational measure. That is further affirmed by the distributive information shown in Figure 1 (a), where the scaled ATL roughly follows a normal distribution, with a considerable proportion of the surveyed college students being located in-between.

In terms of the association between ATL and parental education, Figure 1 (b) shows the bivariate correlation, and an upward trend is detectable. This suggests that those with better-educated parents have a propensity to embrace realistic rather than romantic ATL.

Table 1 about here

Figure 1 about here

Multivariate Analyses

The association between parental education and ATL is further examined using the random-effect linear regression model, which takes into account the panel data structure and controls for the effect of other covariates. As Model 1 in Table 2 shows, parental education significantly predicts the scaled ATL values. College attendees with better-educated parents are more likely to be realistic than romantic when they consider the meaning of love. Note that the estimated coefficient for parental education has substantive significance since this is the second largest coefficient (0.014) among coefficients of all substantive predictors.

In sum, the analytical results thus suggest that parental education has a positive correlation with college students' likelihood of being realistic rather than romantic in terms of their attitudes toward love. This finding buttresses the status closure theory instead of the post-materialist theory, supporting H1.

Table 2 about here

The potential gender and longitudinal heterogeneities are tested in Models 2 and 3. Neither the interaction with gender nor the interaction with survey year is statistically significant at the 0.05 level. Hence, the association between parental education and the scaled ATL is homogenous by gender and college experience. H2a and H2b are rejected.

The results of the seeming unrelated regression modeling and the latent class analysis can be found in Table 3. It is shown that parental education always encourages one to lean toward the material instead of the romantic ATL, even when we allow for the correlation between these two types of ATL. In this regard, our detected empirical pattern is robust.

Table 3 about here

Mediating Effects

In light of the significant association between parental education and the scaled ATL, a subsequent question is, how can it be established? This question was examined through mediation analyses, with the results presented in Table 4. The logarithm of household income, objectified cultural capital, and the number of dates are found to be significant mediators, since their 95 percent confidence intervals do not include zero. Specifically, the percentage of the total effect mediated by (logged) household income is 18.1 percent. For objectified cultural capital the percentage is 29.9 percent. The mediating effect of the number of dates is very weak by comparison, accounting for 3.3 percent of the total effect. Beyond these three mediators, no other variables demonstrated a significant mediating role. Hence, H4a and H4b are affirmed but H4c and H4d are rejected.

[Table 4 about here](#)

Conclusions and Discussion

In this study, we examine how Chinese college students' ATL is correlated with their parents' education. Based on the analyses of the BCSPS panel data, we find that parental education, other things being equal, can significantly predict a college student's leaning toward a realistic rather than a romantic view of love. This conclusion applies to both male and female students and to observations in different college years. Further analyses confirm a mediating role for economic resources and objectified cultural capital in the relationship.

One theoretical implication is for Goode's family convergence theory (Cherlin 2012; Goode 1959, 1963). Based on Goode's idea, romantic love should become an increasingly important component of the modern union formation as the young individuals become independent from their parents in the process of modernization. Moreover, this pattern would spread across the world from industrialized societies to the less developed ones. However, this study presents evidence for an opposite case: parental characteristics are still relevant to

the courtship and marriage of their adult children in a society that unfolds many societal characteristics mentioned by Goode as embodiments of modernity, such as urbanization and population mobility. What is also detected is that this parental influence is rather robust, which is not subject to either gender or time differences.

Then, how to be possible? The mediation analyses might give us a clue. Both material and cultural resource differential serves to mediate between parental education and adult children's likelihood of leaning toward the realistic ATL. In this regard, we may say that it is unequal material and cultural resource distribution between parents that determines the family imprint on adult children's fundamental attitudes toward love. This point of view underscores one understudied factor in Goode's theory: the mechanism of stratification. Indeed, one implicit assumption in the general modernization theory, as well as Goode's idea in particular, is that youths can better support their material lives than in the pre-modern era because they are more likely to adapt to the modern world in terms of knowledge preparation, lifestyle, and so forth. Also, they should be culturally distinct from their parents. These serve as the foundation for young people's independence from the extended families. However, the case of China illustrated here suggests that this is not necessarily true. Treating youths as completely independent from the influence of their families is unwarranted. On the contrary, parents can be critical and influential. As a result, the stratification of family resources ensuing the differential in parental education counteracts the pathway to the modern model of family described by Goode (1963), resulting in some observable variations in adult children's ATL.

The mediation analyses also bring to the fore the role of family cultural capital. A basic conclusion from sociological studies is that family advantages are both material and cultural, but thus far the symbolic aspect of family influences has been relatively less studied in family research. In fact, as this study has shown, the influence of access to objectified cultural

capital is even stronger than that of economic resources. The strong effect of cultural capital echoes Bachrach (2014), who urged population experts to treat cultural factors seriously in their research.

The practical implications of this study concern the intergenerational transmission of economic advantages and the formation of assortative mating. Realistic ATL, other things being equal, would increase the likelihood of mating with a partner with favorable material prospects. In light of the detected link between realistic ATL and advantaged family origin, the more favorable material prospects of the partner promote a type of assortative mating (Han, 2010). The “like marries like” in terms of socio-economic status stands for a kind of alliance between two parties of a couple who are both from advantaged families, thus tending to enlarge the gap *between* household socio-economic status, a pattern that has been confirmed in China (e.g., Hu & Qian, 2015).

One limitation that should be acknowledged is that surveyed students were selective. Caution must therefore be exercised in any attempt to generalize these conclusions to other youth groups. The pattern of the association between parental education and ATL might differ for young people less educated than those surveyed. Indeed, it is possible that college students with less educated parents are not so realistic because the fact that they are attending college already represents a huge step in upward mobility. As a result, they are not so motivated to look for a partner with strong economic prospects to be financially better off than their parents. However, without access to tertiary education, youths from disadvantaged families (defined here as having less-educated parents) might have to be practical in terms of their ATL, because finding a partner with good economic prospects might be their only hope of upward mobility. This speculation cannot be directly tested until more diverse respondents are examined.

In spite of the limitation, this study advances our understanding of ATL by presenting an interesting case from the East, with special attention paid to the potential role of parental education. Since in modern societies forming a family unit can rarely be separated entirely from love, this study has implications for understanding not only Chinese marriages, but also those in other societies.

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Table 1: Descriptive Statistics

ATL(realistic)	16.296	(3.544)
ATL(romantic)	15.502	(4.198)
difference between ATL (realistic) and ATL (romantic)	0.798	(6.139)
scaled difference between ATL (realistic) and ATL (romantic)	0.577	(0.143)
parental education	4.404	(0.994)
logarithm of household income	10.605	(1.180)
objectified cultural capital	10.266	(4.085)
embodied cultural capital	5.621	(1.795)
first date before college	34.93%	(0.477)
number of dates	1.901	(1.565)
expected age of marriage	30.986	(3.797)
age	21.044	(1.412)
gender (female)	47.13%	(0.499)
ethnicity (Han)	88.60%	(0.318)
household registration status before attending college		
(non-agricultural)	72.56%	(0.446)
ranking of college (211 project)	65.09%	(0.477)
No. of observations	8763	
No. of individuals	2311	

Note: means and percentages with standard deviations in parentheses.

Data source: the BCSPS 2009–2012

Table 2: Coefficients of a Random-effects Linear Regression Model Predicting Attitudes toward Love

	Model 1			Model 2			Model 3		
gender(female)	0.082	(0.005)	***	0.076	(0.019)	***	0.082	(0.005)	***
age	0.005	(0.003)	*	0.005	(0.003)	*	0.005	(0.003)	*
ethnicity(Han)	0.011	(0.008)		0.011	(0.008)		0.010	(0.008)	
household registration status before attending college (non-agricultural)	0.012	(0.006)		0.013	(0.006)	*	0.012	(0.006)	
ranking of college (211)	0.004	(0.006)		0.004	(0.006)		0.004	(0.006)	
survey year (reference=2009)									
2010	0.006	(0.004)		0.006	(0.004)		0.006	(0.004)	
2011	0.005	(0.006)		0.005	(0.006)		0.004	(0.006)	
2012	-0.001	(0.008)		-0.001	(0.008)		-0.001	(0.008)	
fixed effect for provinces	√			√			√		
parental education	0.014	(0.001)	***	0.014	(0.003)	***	-0.029	(0.027)	
parental education × gender(female)				<0.001	(0.001)				
parental education × survey year							0.013	(0.008)	
intercept	0.336	(0.055)	***	0.335	(0.056)	***	0.347	(0.056)	***
Intra-correlation coefficient	0.498			0.499			0.498		
Number of obs.	8763			8763			8763		
Number of individuals	2311			2311			2311		
Wald chi2	505.84		***	504.03		***	506.95		***

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$ (two-tailed test)

Dependent variable: scaled attitudes toward love

Standard errors in parentheses.

Data Source: the BCSPS 2009–2012

Table 3: Results of the Robustness Check

	Seemingly Unrelated Regression Model						Latent Class Analysis [#]		
	Material ATL			Romantic ATL					
gender(female)	1.256	(0.075)	***	-2.249	(0.088)	***	1.101	(0.059)	***
Age	0.076	(0.045)		-0.127	(0.052)	*	0.08	(0.033)	*
ethnicity(Han)	0.549	(0.125)	***	0.099	(0.146)		0.112	(0.089)	
household registration status before attending college (non-agricultural)	0.203	(0.102)	*	-0.373	(0.120)	**	0.231	(0.076)	**
ranking of college (211)	0.132	(0.091)		-0.100	(0.107)		-0.101	(0.067)	
survey year (reference=2009)									
2010	0.385	(0.111)	***	0.107	(0.130)		-0.264	(0.081)	***
2011	0.528	(0.134)	***	0.275	(0.157)		-0.562	(0.100)	***
2012	0.169	(0.167)		0.161	(0.196)		-0.599	(0.123)	***
fixed effect for provinces	√			√			√		
parental education	0.419	(0.047)	***	-0.162	(0.055)	***	0.181	(0.034)	***
intercept	11.113	(0.940)	***	20.274	(1.101)	***	-3.423	(0.691)	***
N	8765			8765			8762		
chi2	687.83		***	840.62		***			
AIC							266088.3		
BIC							267015.5		

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$ (two-tailed test)

[#]: there are two classes, where individuals of class 1 have stronger probability of leaning toward romantic ATL while individuals of class 2 gravitate toward material ATL. This model predicts the probability of being classified into class 2 relative to class 1.

Standard errors in parentheses.

Data Source: the BCSPS 2009–2012

Table 4: Results of the Mediation Analyses

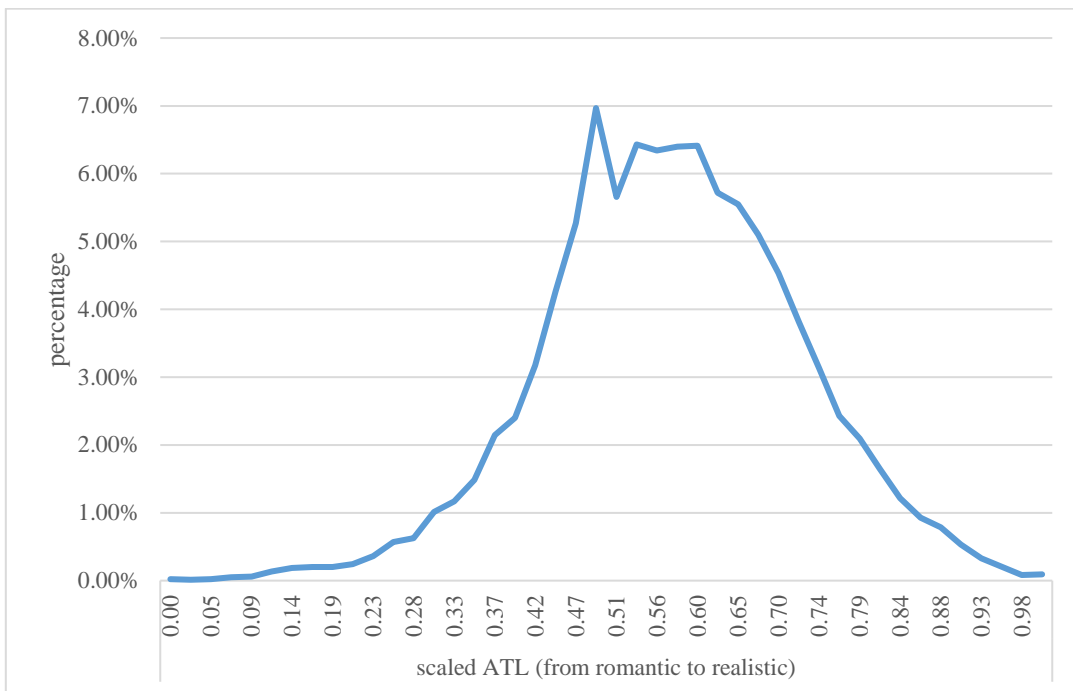
mediator	point estimate	95 percent confidence interval	
logarithm of household income			
average mediating effect	0.002	0.000	0.004
direct effect	0.011	0.005	0.017
total effect	0.013	0.007	0.019
% of the total effect mediated	18.1		
objectified cultural capital			
average mediating effect	0.004	0.001	0.007
direct effect	0.009	0.003	0.016
total effect	0.013	0.007	0.019
% of the total effect mediated	29.9		
embodied cultural capital			
average mediating effect	-0.001	-0.002	0.000
direct effect	0.013	0.007	0.019
total effect	0.012	0.006	0.018
% of the total effect mediated	-†		
expected age of marriage			
average mediating effect	0.000	-0.001	0.001
direct effect	0.013	0.006	0.021
total effect	0.013	0.006	0.021
% of the total effect mediated	-†		
number of dates			
average mediating effect	0.000	0.000	0.001
direct effect	0.013	0.006	0.020
total effect	0.013	0.006	0.020
% of the total effect mediated	3.3		
first date before college			
average mediating effect	0.000	-0.001	0.000
direct effect	0.014	0.008	0.019
total effect	0.013	0.008	0.019
% of the total effect mediated	-†		

Note: control variables include age, female ethnicity (Han), household registration status before attending college (urban), ranking of college (211-project), survey year (reference=2009), and the province fixed effect.

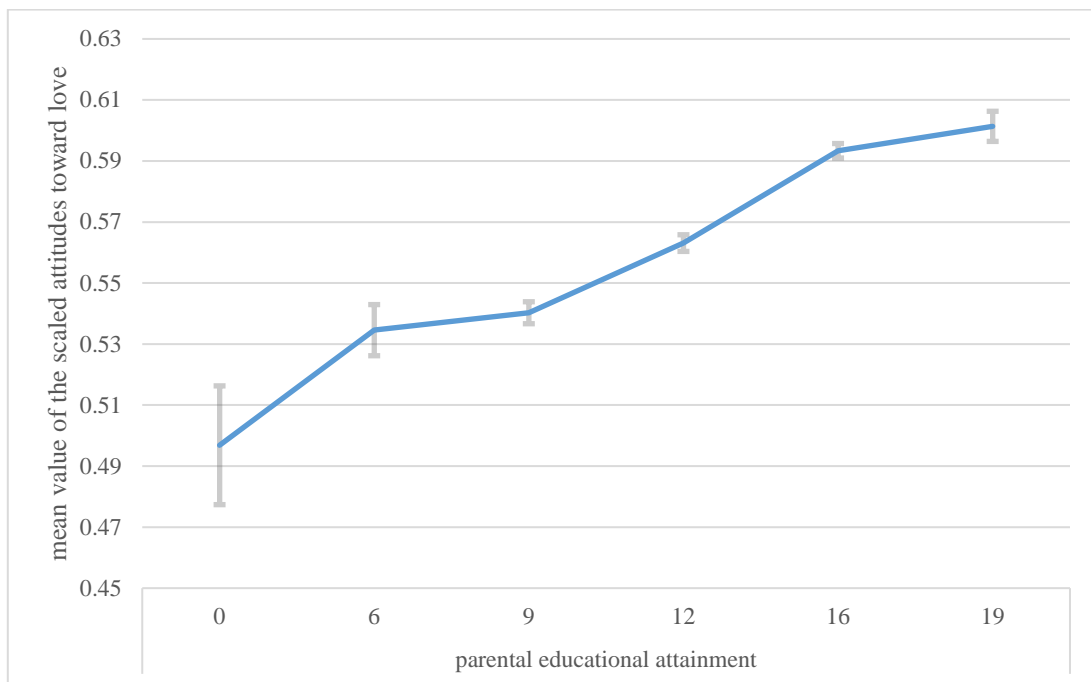
†: not reported due to a lack of insignificance for the point estimate

Data Source: the BCSPS 2009–2012.

Figure 1: Descriptive Patterns of the Attitudes toward Love (ATL)



(a) The distribution of scaled ATL



(b) The correlation between ATL and parental education (year)

Note: 95 percent confidence intervals are marked out in (b)
 Data source: the BCSPS 2009-2012

Appendices

Appendix 1: The Cronbach's Alpha for the Measures of Romantic and Realistic Attitudes toward Love

	First year (2009)	Second year (2010)	Third year (2011)	Fourth year (2012)
ATL(realistic)	0.673	0.673	0.716	0.724
ATL(romantic)	0.675	0.685	0.737	0.761

Data Source: the BCSPS 2009–2012

Appendix 2: Rationale of the Mediation Analysis

In the method proposed by Imai (Imai et al., 2011), a mediation effect is defined as the variations in dependent variable Y when the mediator M changes under the condition of a fixed value of the independent variable X. To estimate a mediation effect, several steps are involved.

The first step is to fit the model for the mediator and outcome, as in $M=f_M(X, C)$ and $Y=f_Y(M, X, C)$, where f_M and f_Y refer to the two models and C stands for the control variables. Those models can be used to predict the M when X varies, i.e., $\widehat{M}' = f_M(X', C)$, and $\widehat{M}'' = f_M(X'', C)$. Similarly, Ys can be predicted as in $\widehat{Y}' = f_Y(\widehat{M}', X', C)$, $\widehat{Y}'' = f_Y(\widehat{M}'', X'', C)$, $\widehat{Y}'_c = f_Y(\widehat{M}'', X', C)$, and $\widehat{Y}''_c = f_Y(\widehat{M}', X'', C)$. Here, the subscript c suggests that the values of \widehat{Y}'_c and \widehat{Y}''_c are counterfactual, since the mediator is valued in a situation that differs from that of the predictor (\widehat{M}'' versus X' , and \widehat{M}' versus X''). The average causal mediation effect is the of the form

$$\begin{aligned} & \frac{1}{n} \sum (\widehat{Y}' - \widehat{Y}'_c) + \frac{1}{n} \sum (\widehat{Y}'' - \widehat{Y}''_c) \\ = & \frac{1}{n} \sum [f_Y(\widehat{M}', X', C) - f_Y(\widehat{M}'', X', C)] + \frac{1}{n} \sum [f_Y(\widehat{M}'', X'', C) - f_Y(\widehat{M}', X'', C)] \end{aligned}$$

Clearly, change in Y is only attributable to the mediator M, since the predictor X is fixed. Statistical uncertainty for this estimator can be computed via bootstrapping or Monte Carlo approximation.

Appendix 3: Goodness of Model Fit of the Latent Class Analysis for Different Number of Classes

# of classes	AIC	BIC	Likelihood ratio/deviance statistic	Maximum Log-Likelihood
2	266615	267245	109588	-133218.7
3	261372	262320	104254	-130552.1
4	258472	259739	101265	-129057.3
5	256361	257947	99064	-127956.8