

The Social Context of Divorce and its Impact on Adolescent Psychological Well-being

By

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I. Introduction

Parental divorce and its effects on children and adolescents has been the subject of extensive social science research because of its important relevance and ramifications on policy, culture and society. A significant body of literature has developed, exploring the effects of divorce on children and adolescents, which indicates, on average, a significant negative impact on their psychological well-being. Many of these inquiries, however, have failed to recognize the embedding of families within complex social contexts, which indirectly shape individuals and moderate the impact of life events. Accounting for socioeconomic status and other community characteristics can provide a more in depth look at the relationship between parental divorce and dependants' psychological well-being. This paper will investigate how social context moderates the impact of divorce on adolescents, by looking at the divorce rate and its indirect influence on adolescents' psychological well-being. The amount of divorced families in the district in which the adolescent is embedded could have an effect on their personal perception of divorce. Whether the occurrence of divorce is common or rare, in an adolescent's immediate community, may in part dictate the divorce's ultimate psychological impact. Through the incorporation of the notion of social context and measures in community based survey research I hope to understand and explore the social determinants of adolescents' psychological well-being. This is an important inquiry because past research in this area has overemphasized micro-level interactions ignoring the broader social context (Link & Phelan, 2001).

There has been an increase in divorce in the United States since 1970 and it is estimated that 40-50% of all children will live in a single parent home sometime during

their childhood, many due to divorce (Jeynes, 2002). There has been a striking upsurge in divorce rates from an average of two divorces per 1,000 to five divorces per 1,000 since the 1970's when divorce legislation was radically reformed (Gruber, 2004). One million children in America are involved in a new divorce annually (Mason, Skolnick, & Sugarman, 2003). Following in the wake of this spike in divorce rates, an extensive literature developed investigating its effects on parents, children and adolescents. Divorce is a potentially stressful and disruptive life event for children and adults alike. Through meta-analysis of this literature a cumulative picture of evidence has emerged which clearly suggests that parental divorce is associated with lower well-being among adolescents (Amato, 1999). However, it is still unclear what mechanisms impart this negative impact.

An individual's social context has a significant impact on their life course and outlook. Social context involves social and cultural norms, and the environmental circumstances of one's immediate community. When we examine the social context surrounding adolescents it might be that those who experience a divorce are less adversely affected when they live in communities where it is commonplace and consequently socially acceptable. In this way the social perceptions of the acceptability of divorce may partially determine the impact of a divorce on one's psychological well-being. It also could be the case that the availability of social support accounts for the influence of the social context.

II. Literature Review

Life course perspective

The field of life course study focuses on human development across an individual's life span and explores factors which influence direction and growth. The development of this field and ability to look at individuals and their environment over time is partially due to the recent establishment and reliance on longitudinal studies, developmental psychological concepts linking experiences throughout life to future outcomes, and the creation of new statistical techniques and models to deal with individual and demographic centered data over time (Elder, 1998).

Every individual goes through a life-long adaptive process, which is influenced by environmental and social factors. While individuals shape their life course through personal decisions and initiatives, people are always constrained by external forces and limitations (Elder, 1999). This contextual effect may exert the most influence during the formative years of a dependant child. In terms of child development, family events such as the birth of a sibling or parental divorce, exert influence on the direction of a child's life (Kowaleski-Jones & Dunifon, 2004). Other societal and cultural factors influence life direction such as socioeconomic status and ethnicity. Social constraints and environmental influences determine the social context.

While everyone has a different life course and circumstances, there are several well-recognized stages of development. During these different periods of a typical life including in the simplest outline initial dependency, childhood, adolescence, adulthood and old age, there are many socially expected processes and steps. Society has an expected normative set of stages individuals traverse during their life course including

going to school, college, working, getting married, having children, and retiring. There is a socially appropriate time for entering school, leaving home, getting married, having children and retiring from the work force (Elder, 1998). A high degree of reported consensus has been observed on these expected norms (Neugarten, Moore & Lowe, 1965). People tend to have a sense of whether they are on time, late or early in relation to major life transitions (Elder, 1998). There is however, a degree of variability by class and race (Shanahan, 2000). Individual deviation from this anticipated life course timetable may have social consequences. For instance there is general agreement among men and women on the appropriate age for women to marry. Marrying earlier or later than this period is associated with informal social sanctions and pressure.

However these expectations adjust overtime as society changes. An individual's birth year or entry into a life phase places that individual in a historical context related to social changes. These groups of individuals with a common experience are called a cohort (Elder, 1998). Different cohorts develop different life experiences and expectations derived from their personal historical period and circumstances. As a result the timing of life events and expectations of life course norms may be different for different people over time. During the post World War II years, it probably would not have been out of place to have older students on traditional college campuses because the GI Education Bill encouraged veterans to attend college after the war. Another example of the time period and cohort effecting life course expectations is the increasing prominence and acceptance of women in the professional world. As a result the average age of marriage has slowly shifted upward. Couples were expected to get married much

earlier during the first half of the 20th century, now they tend to become married later on in life after starting their career.

Divorce's effects on adolescent well-being

There already is extensive research on divorce's direct effects on children and adolescents. Parental divorce is a potentially tragic life event causing disruption and upheaval in children's lives. Parental divorce is believed to, on average, cause a range of behavioral and emotional problems in children and adolescents (Kelly & Emery, 2003). This can be partially attributed to the fact that the end of marriage is associated with negative outcomes in the quality of children's household environment as a result of changes in the ways that children and parents interact with each other (Kowaleski-Jones & Dunifon, 2004). Research has shown that antisocial behavior is significantly increased in single parent homes. Adolescents living in divorce households are more likely to act out antisocially, display aggression towards authority, engage in sexual activity, and have difficulty interacting with peers. These types of behavior have all been shown to be higher within divorced families (Hoyt 1990; Nilzon, 1997; Vadewater, 1998; Jaynes, 2002). It is hard to say what is the direct cause of these antisocial behaviors but social scientists speculate that they are in part a result of decreased parental-child interaction. It has been shown that parental involvement, supervision, and overall support for their children often decreases within single and divorced households. As a result children experiencing divorce may show increased tardiness and absenteeism and their performance in academics likely decreases (Jaynes, 2002).

In terms of mental health and well-being, case studies and other analysis have shown an increase in depression and anxiety in children of divorce (Jesinski, 2003). Both

teachers and parents rated children from divorced households to be more significantly depressed and anxious than their counterparts from intact two-parent households (Hoyt, Cowen, Pedro-Carroll, & Alpert-Gillis, 1990). Feelings of insecurity and low self esteem are also significantly present in children after divorce (Glenn & Kramer, 1985). On average, the psychological well-being of children from happy married families is slightly higher than children from divorced families (Hetherington, 1999). In addition to these short term psychological effects, numerous studies have shown that there are also long-term effects. For instance children from divorced households are also more likely to divorce than others (Glenn & Shelton, 1983). Statistical analysis of several surveys has also revealed significant negative long term effects on psychological well-being like happiness, satisfaction and excitement long after childhood (Glenn & Shelton, 1985).

However these negative occurrences associated with divorce could be in part due to a selection effect for these types of negative outcomes. For example it might be the case that these negative outcomes such as anxiety and poor school performance are a function of high conflict households which eventually obtain divorces. These characteristics many times manifest before the divorce even occurs (Piketty, 2003). In which case, it could be argued that, facilitating divorce actually reduces the long term negative consequences of high-conflict households by allowing easy separation and more amicable interaction in the long run. In this way divorce may improve the well-being of a child, if it leads to a decrease in hostility and stress between parents (Amato, 1993). Furthermore these negative effects are compounded by the fact that divorce is associated with socioeconomic factors which influence children's demeanor (De Galeano & Vuri, 2004). Some argue that low socioeconomic status is a probable cause of both divorce and

child problems. However, it has been shown that the net economic consequences of divorce, such as an average decline in the standard of living of single mothers who were dependent on a husband's income, (Weitzman, 1985 & Gruber, 2000) does indeed affect the mental and physical well-being of children post divorce regardless of pre-divorce socioeconomic status.

In light of these findings it is important to note that a significant number of children from divorced families are emotionally well adjusted and have no long term psychological deficits (Kelly & Emery, 2003). The differences in well-being between divorced and non-divorced families, while significant, are really not that large (Amato, 1999). This is due to the fact that there is a great deal of variability in children's emotional reaction to divorce due to internal factors. For instance, there are documented gender differences in children's response to the stress of divorce, specifically indicating that boys are more likely to experience behavioral outcomes while girls are more likely to experience psychological outcomes (Kowaleski-Jones & Dunifon, 2004). There is ultimately however a degree of consensus that divorce itself has a negative impact on children even if it is on average small.

There are several distinct explanatory theories as to how children and adolescents adjust to divorce and the mechanisms through which parental divorce impact their psychological well-being. One perspective is called the "Parental Loss Perspective". It purports that mothers and fathers are uniquely important resources for children and the absence of one of the two is problematic for a child's socialization. It has been shown that, on average, children experience a decrease in quality and quantity of contact with the non-custodial parent following a divorce. In turn, things like a decline in parental

support, authority and supervision as a result of a divorce contribute to a negative impact such as poor academic achievement, misbehavior, and low self-esteem (Amatos, 1993).

The “Parental Adjustment Perspective” focuses on the psychological adjustment of the custodial parent to the divorce and its indirect effects on the children. The stress and emotional upheaval of a divorce might impair the quality of a parent’s childrearing skills and as a result impart negative consequences on the children. Studies have shown that custodial parents after divorce are more depressed, anxious, angry and self-doubting than married individuals (Hetherington, 1999). As a result they comparatively show less affection, communicate less with their children, punish them more and are inconsistent with their use of discipline (Amato, 1993). In this way, the direct negative impact on the couple, following marital dissolution, is thought to indirectly lower the well-being of the children.

The “Inter-Parental Conflict Perspective” argues that unhappy home environments, especially as the result of high levels of marital discord, are less than optimal on the development of children. Numerous studies have shown that marital conflict has a negative impact on children’s psychology (Emery, 1982). Children react to inter-parental hostility with negative emotions such as fear, anger, and distress. Furthermore, the display of verbal or physical aggression may indirectly teach children that fighting is a suitable method for dealing with disagreements (Amato, 1993). Children may be forced to take sides in the conflict or attribute blame for the dissolution of their parent’s marriage to themselves. This perspective not only focuses on the conflict between parents prior to and during the divorce it also considers the chronic strain of post divorce conflict over custody, visitation and child support. A meta-analysis of studies

provides strong support for the idea that inter-parental conflict is a major contributor towards children's diminished psychological well-being (Amato, 1993).

The "Economic Hardship Perspective" assumes that the decrease in household income and strain on monetary resources due to divorce impacts the well-being of children. A severe decline in standard of living is common as most children live with their mothers following divorce (Weitzman, 1985). Economic hardship not only has a direct negative impact on children's nutrition and health it also impacts the time that the now single parent can spend with the child. Adolescents may feel compelled to drop out of school and contribute to the family income. These burdens all presumably have a negative impact on the child's well-being.

The "Life Stress Perspective" is more general and incorporates aspects of all four perspectives. During an individual's life course they experience stressors which have a negative impact on their psychological well-being. A life event such as a divorce can be unexpected, undesirable, and unusual and these characteristics make it a stressful incident. Each of the above mentioned perspectives singles out a single stressor and proposes that it is the key process through which divorce impacts children. The "life stress perspective" takes a more complex and realistic view by arguing that it is not a single stressor, but the accumulation of negative scenarios, which result in problems for children after divorce (Amato, 1993). Divorce must be viewed as a process extending overtime involving multiple changes not as a single event (Kelly & Emery, 2003). All of these mechanisms feasibly affect children's psychological well-being by interacting with one another in the short and long term.

There is a documented pattern of psychological recovery after traumatic events where long term emotional stability returns. This type of rebound is well documented after parental separation. The question however is whether this recovery is complete or partial after a childhood scenario. This inquiry is a part of a larger debate over the process of human development. The traditional view purports that we are irreversibly influenced by the early formative years of our lives. The opposing view of human development, which is more optimistic, argues that we have potential for overcoming early negative influences (Glenn & Kramer, 1985). For many people this is the case and parental divorce has little significant long term effects on their psychological well-being. Researchers have identified that specifically the first year after the parents' separation is a crisis period during which there is less emotional support and cognitive stimulation (Kowaleski-Jones & Dunifon, 2004). However long term consequences have also been soundly identified, for example individuals who were children when their parents became divorced are much more likely to divorce than others (Kulka & Weingarten, 1979). This along with other documented negative short term consequences makes the exploration of social context and its influence on the impact of divorce an important endeavor.

The interaction of social context, divorce and adolescent psychology

Regardless of which mechanism, mentioned above, describes the way that divorce directly affects children, there are contextual and internal factors which moderate the process. There are many possible explanations for the way that social context influences adolescent psychological well-being following a divorce. Concepts like stigma, social comparisons and social support can be offered as mechanisms through which social context plays a role in the impact of a divorce on depression.

Despite some disagreement in the social psychological literature as to the exact definition of the concept of stigma (Stafford & Scott, 1986) most accounts involve labeling, stereotyping, separating, and status loss. The most common conception of stigma involves several distinct components: People initially distinguish and label human differences, dominant cultural beliefs then link these labeled persons to undesirable characteristics or negative stereotypes, these people are then placed in distinct categories to set up a degree of separation, and finally these labeled people experience status loss and discrimination which leads to unequal outcomes (Link & Phelan, 2001). There are significant findings which show that effects of social stigma are a key determinant of many life chances including psychological well-being, employment and housing (Link & Phelan, 2001). Stigmatized groups are disadvantaged when it comes to a general set of life chances like income, education, psychological well-being, housing status, medical treatment and health (Link, 1987). In the most obvious sense individual inherent external characteristics like race and gender play a key role in life trajectories. For instance men and whites are more likely than women and blacks to attain positions of power and prestige – they talk more frequently, have their ideas more readily accepted by others, and are more likely to be voted group leader (Mullen et al, 1989). Other less obvious distinguishing characteristics act in the same manner contributing to life outcomes. Stigma may cause overt discrimination and negative outcomes as a result of others actions and perception, but it can also impart negative consequences through the stigmatized person's own beliefs of inferiority or abnormality. It is important to note that personal differences, such as social and economic resources, shape the life circumstances

of persons in a stigmatized group and therefore there is substantial variation in life outcomes within stigmatized groups.

In relation to the notion of life course, the concept of stigma plays a role in human development. Early in life, as part of socialization into our culture, people construct categories and frameworks about the world. They develop a set of characteristics and expectations which they perceive as “normal”. Deviations from these stereotyped beliefs and social norms may evoke social stigma. Any deviations from what is socially considered the standard route and life trajectory, is potentially subject to the scorn of social stigma because it stands out as unusual. A break, out of sequence step, or skip in the normal life course pattern may have social consequences. For example an individual who does not attend college during their years as a young adult, following high school, but then decides to attend traditional full time college later on may feel “out of place” or “out of touch”. Another example of social stigma, as a consequence of deviation from a typical life course, could be highlighted by the distress experienced by couples who marry later or earlier than socially expected. Until recently women who entered the work force were subject to scorn and stigma because gender has affected the socially acceptable options and life stages available to women. These psychological feelings of stigma develop out of the social norms of society and standard expected life course pattern.

With the dramatic increase in divorce rates following the 1970’s liberalization of divorce laws, public tolerance for divorce has also increased dramatically over the last few decades (Veroff et al., 1981) and one could argue that the stigma associated with it has declined. However a more detailed study has suggested that the shift in opinion is

much more complex than wholehearted approval. In a survey comparing opinions about divorce from the 1950's to the 1970's there was indeed a decrease in the proportion that thought divorce was "always wrong" however, there was an increase in proportion of people who thought divorce was "sometimes wrong". More specifically this survey indicated a shift in attitude "from moral absolutism to situational ethics" (McRae, 1978) with regard to divorce. Many studies focus on the affects of divorce on adults and adult perceptions of divorce over time. Naomi Gerstel for instance analyzed stigma associated with divorce by interviewing a random sampling of adults. Her study showed that the process of divorce does indeed create a sense of stigma on both parties to a divorce. The respondents to the survey viewed the concept of being married as the "normal" social relationship and devalued other individuals who were divorced (Gerstel, 1987). Furthermore, they purported that divorce is linked to or results from defects in at least one partner.

However, there are several scholars who argue that being divorced is no longer stigmatized (Spanier & Thompson, 1984, Weitzman, 1981). With the sharp increase in the divorce rate nationwide the proportion of divorced adults to married continues to grow. This increase in divorced individuals may impact people's social comparison and perceptions. As divorce becomes more common individuals are less likely to internalize blame because they see many other people going through the same process. This increased exposure to the concept of divorce in everyday life over time reduces the abnormality and stigma originally associated with divorce. In time as the level of exposure to divorce increases individual's perceptions of divorce are altered. As a result public tolerance for divorce appears to have increased dramatically over the last few

decades (Veroff et al., 1981). A cohort exposed to and tolerant of divorce may have developed as social norms about family structure evolve. As divorce becomes more commonplace, it may become, to some extent, an expected step in one's life trajectory and no longer invite social stigma.

However, a decline in the categorical disapproval of divorce is not the same as the absence of stigmatization (Gerstel, 1987). While formal institutional disapproval of divorce, imposed by church and state, has declined informal interpersonal condemnation still exists. There is evidence that disapproval of divorced individuals persists, contingent on the specific condition and circumstances of the divorce (Gerstel, 1987). Men whose unfaithful behavior causes the divorce have an extremely high self-reported sense of societal disapproval, while women report a sense of societal disapproval when they have children involved (Gerstel, 1987). A sign of this kind of interpersonal disapproval is displayed when mutual friends of the couple take sides and social networks are divided up following a divorce (Gerstel, 1987). This process often involves friends assigning guilt to one side of the divorce and placing blame on one person even if neither side is to blame. Divorced individuals are often ashamed or hesitant to tell their friends for fear of disapproval. This could be linked to a feeling of failure to maintain a "normal" family life structure. Divorced individuals sometimes experience social exclusion by married couples, because they are no longer a part of the mainstream married community. Divorced individuals often report feelings of being scorned by society. They also report increased devaluation of self and feelings of shame and guilt (Gerstel, 1987). These interpersonal consequences are all linked to and illustrate how individuals involved in a divorce are subject to the possibility of stigma.

The next issue is whether stigma can have a negative impact on psychological well-being. Feasibly individuals involved in a divorce feel some sense of stigma because of the way they react to it. Divorced couples use coping strategies such as secrecy, partial disclosure, blame or social withdrawal (Markowitz, 1998). These reactions tend to constrict social networks and support. This can in turn lead to lowered self esteem, demoralization, depression, stress and anxiety (Link, 1987). Even if it is the case that society does not truly denounce divorce, individuals nevertheless anticipate social stigma, due to the prevalence of a traditional family structure in our society (Markowitz, 1998). This anticipated rejection alone has significant consequences on life satisfaction (Rosenfield, 1997).

Another concept which suggests a potential impact of social context on the consequences of divorce is social comparison. This is a cognitive process in which individuals evaluate themselves in relation to a general reference group (Wood, 1996). By identifying similarities and differences between oneself and others people make judgments (Suls & Wills, 1991). Divorced individuals compare themselves to the general public who for the most part are married. In our society marriage is the norm and might be considered the ideal proper family structure. Divorced individuals when comparing themselves to society feel atypical, as well as, alienated from the mainstream married community. The dissolution of marriage, as the deviation from a conception of normality, may account for documented increases in parental levels of anger, despair and depression following a divorce. This notion works hand in hand with stigma and could be the origin of self created feelings of stigma.

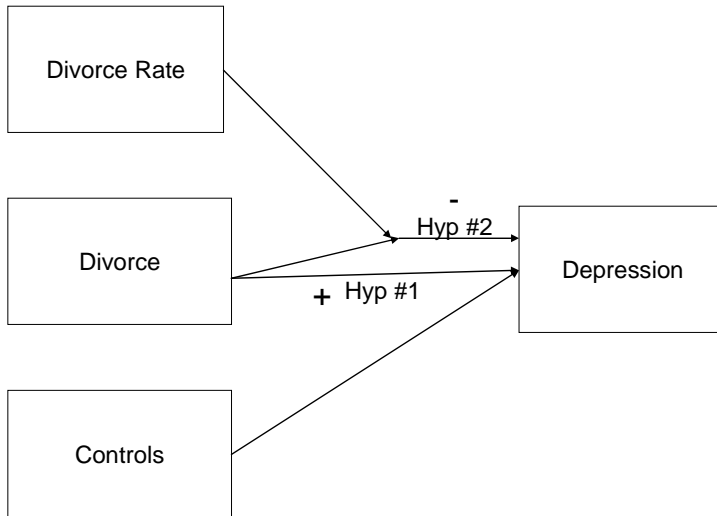
It also could be the case that the accessibility of social support moderates the influence of a divorce on adolescent depression. The social network of one's immediate community is an essential resource for coping with life events such as divorce (Jung, 1984). Family members, teachers, and peers all provide assistance through interaction and positive encouragement during negative life experiences. The make up of ones community and social context influences the availability of this support system.

There are definitely other ways in which social context influences depression following divorce and it is unclear exactly which mechanism illustrates this intervention. While there is significant evidence that divorce still elicits the effects of social stigma and that stigma contributes to psychological well-being, most of the analysis of stigma and divorce up to this point has focused on the adults involved in the divorce not the children and adolescents of the divorced couple. Furthermore, while there has indeed been a documented decline in the disapproval of divorce, these measures have been based on national level indicators, which ignore the widespread variation in divorce rates across states and communities. Ultimately there are many factors other than the process of social stigma, which influence life outcomes. While there is evidence that stigma has an impact on life chances and psychological well-being (Link & Phelan, 2001) it is important to remember that it is one of many interacting mechanisms contributing to the trajectory of an individual's life course.

Hypotheses and summary of model

I hypothesize that on average divorce will have a negative impact on adolescent psychological well-being. The study's central hypothesis, however, is that the influence of divorce on adolescent depression will be buffered in communities in which divorce is

more prevalent. These relationships are expected to hold when controlling for a range of socioeconomic and other variables associated with both divorce and depression.



III. Data Description

The National Longitudinal Study of Adolescent Health (Addhealth) is a nationally representative dataset that explores the behavior and well-being of adolescents and the influence of their individual circumstances on young adulthood. The study's goal is to investigate the effect that different social contexts have on adolescent health and risk behaviors. The survey asks questions to highlight various contextual influences such as community, neighborhood, family, school, peers and romantic relationships. Addhealth is a comprehensive survey of adolescents that has helped researchers and policy makers to examine and understand how to address young people's health related behavior.

This analysis uses data from the first two waves. Wave one was collected in 1995 and wave two was collected in 1996. The dataset is a nationally representative sample of in school adolescents from grades seven to twelve. Initially a sampling frame of 80 representative high schools and their feeder middle schools were randomly selected and categorized by school type (public or private), geographic region, racial and ethnic composition, and whether the school was urban or rural. From these schools a large sample of students was randomly selected for in-home interviews and longitudinal follow up.

Of the students contacted 78.9% responded and agreed to participate in the study. Approximately one hour in home interviews were conducted by Addhealth representatives. For the collection of sensitive survey information, like sexual activity and involvement with violence, a computer assisted self-interview system was used in order to encourage truthful and accurate responses. The parents of the selected interviewees were also asked to fill out a 30 min survey at the first wave. The individual

respondents' information was then linked to US census information about their respective census tract and county.

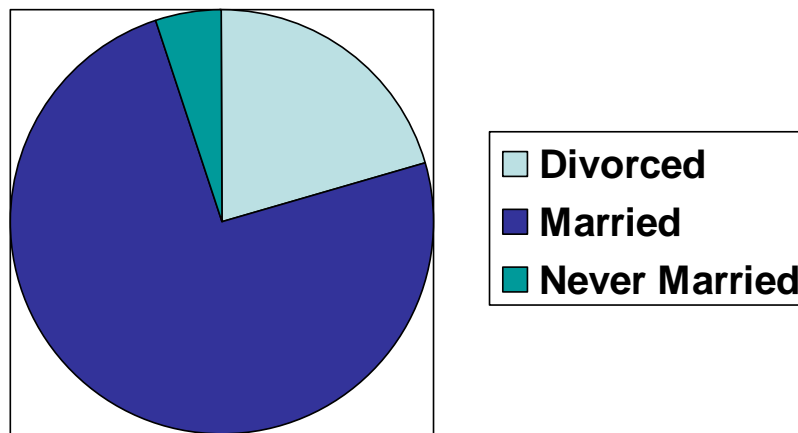
Independent variables

The Addhealth dataset has several indicators for divorce at various levels of observation. The goal is to identify adolescents whose biological parents have undergone a divorce. By drawing on information provided by the parental survey and adolescents' responses the variable for divorce at the individual level is constructed. The parental survey had a marital status question with the choice of married, separated, divorced, widowed or never married. I include both separated and divorced responses within the divorced variable. This is because previous research has found that the effects of separation are similar to the formal process of divorce (Bumpass & Raley, 2003). In the sample 20.42% parents indicated divorce, 73.81% indicated married, and 5.77% were never married (NEVERMAR). This break down is consistent with the divorce rate of the sample reported by other researchers using the Addhealth dataset (Brown, 2006).

However there are some problems in using the parental response of marital status to determine whether the adolescent has experienced a divorce. The current status of marriage ignores the possibility that the parent could have remarried after divorce. An adolescent with divorced biological parents could be living with a parent who has remarried. These individuals would be inappropriately left out of the sample of adolescents who experienced a divorce. In order to alleviate this situation an indicator for remarriage is created by combining kids who no longer live with their biological father but whose parents reported that they are currently married. These remarried families, which include adolescents who have experienced the divorce of their biological parents,

will be included in the sample in a combined variable called EXPDIV.

Graph 1: Adolescent's Family Experience

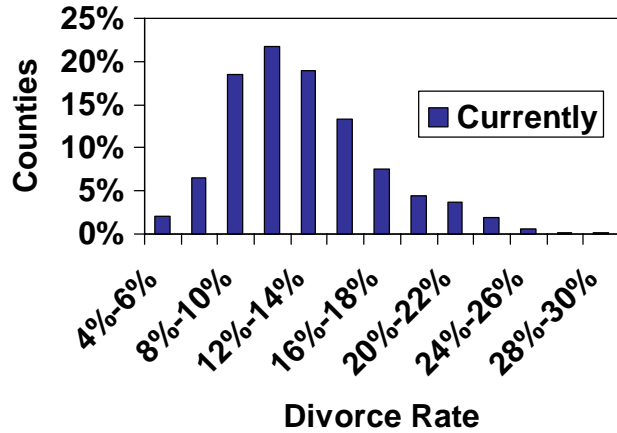


Source: National Longitudinal Survey of Adolescent Health.

There is also an issue with the recency of divorce. The impact of parental divorce may be greater if it occurs when the child is younger (Galdeano & Vuri, 2004). The more recent the divorce is, the more likely that negative psychological factors, such as depression, will be picked up. To measure how recent a divorce occurred we will use how long it has been since they lived with their biological father. If it is less than 3 years, the divorce will be considered recent (DIVRECNT) if it is greater than 3 years the divorce will be considered past (DIVPAST). Two percent of the sample contains individuals who have experienced a recent divorce. However this measure ignores the possibility of cohabitation, prior to the biological father leaving and the mother getting married to someone else, in which case no divorce would have ever occurred. With the small sample of recent divorces available and the low probability of this scenario this will be overlooked but can be addressed in further research.

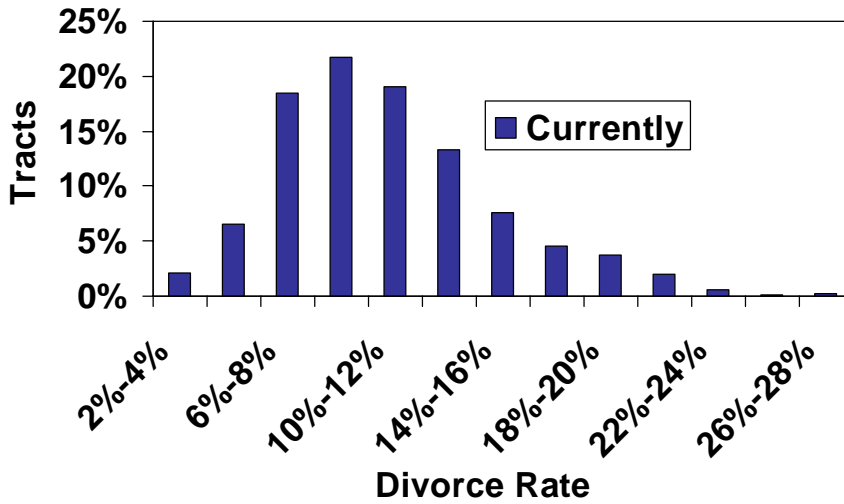
To measure the social context, census level statistics for the proportion of individuals who are married, divorced or separated at the county and census tract levels will be used. The tract level is a rough indicator of the individual's neighborhood make up and includes approximately 4,000 people. The county variable picks up the larger social context of their immediate community. As was done for the individual divorce variable, the divorced and separated proportions will be combined to create the divorce rate. This is because divorce and separation can be considered two steps in the same process and it will be assumed, as mentioned above, that they have a similar impact on adolescents. The divorce rate of tract or county is the proportion of individuals that are currently divorced (CURDIV). There is another indicator which includes the proportion of individuals that have ever been divorced but for simplicity reasons we will only use the divorce rate which reports those who are currently divorced. The divorce rate is a proxy for exposure to divorce, which is hypothesized to effect individual perceptions about the acceptability of divorce.

Graph 2: County - 1990 Divorce Rates



Source: National Longitudinal Survey of Adolescent Health and US Census Bureau

Graph 3: Tract - 1990 Divorce Rates



Source: National Longitudinal Survey of Adolescent Health and US Census Bureau

Dependent variable

The depression variable is a composite variable which combines various questions in the Addhealth survey. The scale consists of 8 questions; 4 highlighting positive feelings and 4 representing negative feelings. For the negative affect the respondents were asked whether during the last week they; had the blues, felt depressed, felt sad and felt lonely. For the positive affect the respondents were asked whether during the last week they; felt just as good as other people, hopeful about the future, happy and enjoyed life. The responses available were: never, sometimes, or a lot. The standardization of all 8 questions into a scale yields a Cronbach's alpha of .82. After the questions were combined in a scale and standardized, individual rankings of depression ranged from -.95 to 3.08.

Control variables

Control variables are used to help rule out alternative explanations. Age is constructed from the adolescents' birth date and ranges from 11 to 21. The bulk of the respondents however are between 13 and 18. Gender is a self reported dichotomous variable with 51.5 % females and 48.5% males in the sample. Both age and gender, around the time of divorce, moderate the effects of parental separation on children's psychological well-being (Booth & Amato, 2001). Therefore age is divided into two categories to reflect the importance of developmental and maturity differences between middle and late adolescents. Older adolescents have greater multidimensional and relativistic thinking, have more autonomy and greater geographic mobility, are more involved with the opposite sex, and are less involved in day to day activities with their parents and thus are more likely to be able to successfully deal with family dissolution

(Steinberg & Silk 2002). 57% of the sample is adolescents ages 11-16 (YOUNG) and 42% is adolescents age 17-21 (OLD). Race is self reported. The sample contains 22.43% Black, 55.34% White, 6.44% Asian, 13.84 % Hispanic, and 1.77% of other racial identities. The welfare variable (WELFARE) highlights whether the mother or father received public assistance, during the past year. The parent's education (PAREDYRS) is also used as a proxy for socioeconomic status of the family. The variable is created from the parent's self reported number of years of education completed. The highest amount of years of education obtained by either parent is then used for the level of parent's education for the family unit. It is a semi-continuous variable ranging from 6 to 19 years.

IV. Methodology

Social science research often involves data which has been collected at various levels of observation. For instance a dataset might contain information about individuals and the school that they attend or their neighborhood. In the case of this paper, there are several levels of data being used; individual survey responses, county statistics, and census tract statistics. People are nested within organizational units such as schools; these units are then nested within communities, states and countries. These various levels of observation interact with one another and it is difficult to examine them separately (Hox, 1995). Hierarchical models provide a general statistical framework which appropriately deals with this multi-level data (Raudenbush & Bryk, 1992).

An important statistical justification for the use of hierarchical models is that when using multi-level data there is a possibility that individual observations may not be completely independent. This correlation of individuals within a multi-level context may violate the assumptions of ordinary least squares (OLS) regression model. The use of random sampling within organizational units artificially constrains the amount of variation observed and can result in error terms associated with individuals to no longer be independent. This clustering of data may lead to spuriously significant results. In order to deal with this intrinsic clustering of individuals within groups, the hierarchical model is designed to analyze variables from different levels simultaneously. On more theoretical grounds, hierarchical modeling has been shown to be very helpful when conducting life course research because it correctly incorporates social context with data about individuals. The hierarchical model provides a more ecological approach which recognizes that development involves the interaction between personal and contextual

factors (Swisher, 2005). The hierarchical model is good for analyzing the experiences of individuals while relating these to characteristics of their broader context as this paper intends to do.

V. Results

Descriptive statistics

Not surprisingly simple bivariate analysis reveals that the mean level of depression for adolescents who experience a divorce (.04) is higher than adolescents whose biological parents are married (-.013). There is a slightly higher proportion of Asians and Hispanics who are not divorced (.076 and .146 respectively) when compared to the divorced category (.03 and .115 respectively). While there is a slightly higher proportion of blacks who are divorced (.27) when compared to the non divorced category (.21). There are a slightly higher proportion of welfare recipients who are divorced (.151) when compared to the non divorced category (.064). In addition the mean divorce rate is essentially the same for adolescents of divorced and non divorced families at both the tract and county level: 11%. This is fairly encouraging because it suggests that people who are prone to divorce do not “self select” themselves into communities with similar characteristics.

<See Table 1>

Multilevel models

Through the use of the multi-level models mentioned above we can interpret the complex association of different characteristics on the depression of adolescents. The general modeling strategy is as follows. Model 1 includes age, gender, and race as control variables. In addition to age, gender and race, welfare standing and parent’s education are included to account for socioeconomic status. Model 2 uses all the controls and looks at the interaction between experiencing a divorce and the divorce rate on depression. Model 3 separates out these effects by the recency of the divorce. These three models use the

divorce rate which reports the proportion of people who are currently divorced (CURDIV) and are run using the data from the contextual level of both the census tract and county.

Model 1 shows that 1 year of age is associated with a .04 higher mean on the depression score. Female's depression is .16 higher than males. In terms of race differences; Hispanics, Asians and Native Americans have higher mean levels of depression than Whites. Compared to kids whose biological parents are married, those whose parents are not married have a .15 higher mean level of depression. 1 year of parental education decreases adolescents' depression by .03. The receipt of welfare increases mean depression by .08. Most importantly model 1 shows that experiencing a divorce is significantly (.001 p-value) associated with an increase in depression; .08 for the tract and .09 for the county. Furthermore, a 1% increase in the divorce rate at the county level is associated with a .8 decrease in depression.

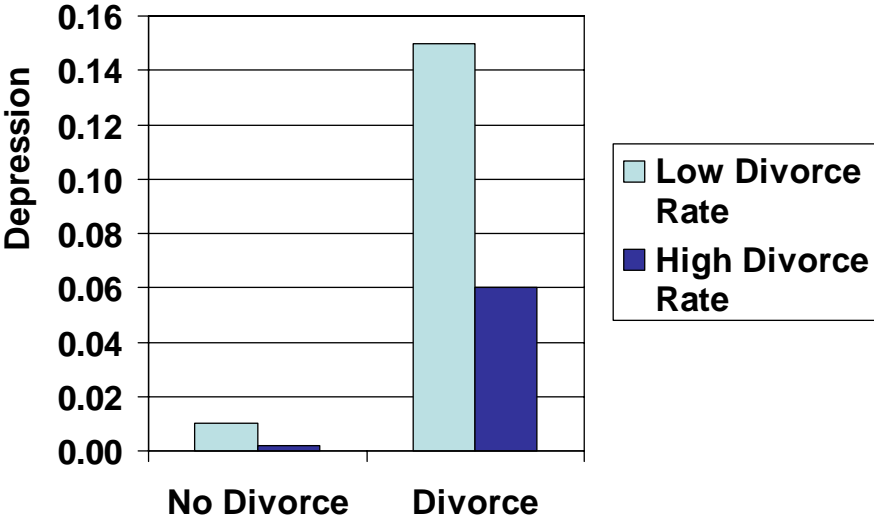
The central research question is addressed in model 2. The model using the counties divorce rate shows a significant interaction between experiencing parental divorce and the prevalence of divorce in the community. The scale of the county divorce rate (i.e., one unit change represents 100% divorce rate) makes direct interpretation a bit difficult. Compared to a youth living in a county with a 0% divorce rate, a 100% divorce rate in a county is associated with 1.78 lower depression following a divorce. This is statistically significant at the .01 level. The tract level model 2 shows very similar results. However interestingly at this smaller neighborhood level we see less of an effect by the divorce rate. A 100% divorce rate of the tract is associated with .68 lower depression

following a divorce, compared to a tract with a 0% rate; this is significant at the .05 level.¹

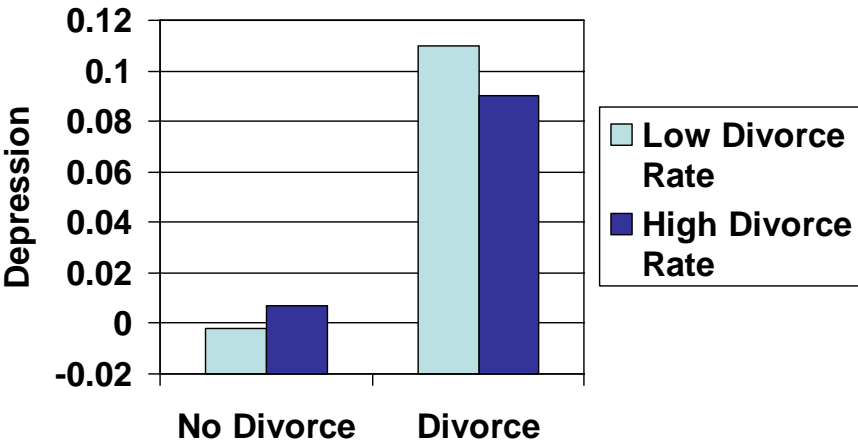
Graphing the interaction of the divorce rate and an adolescent's experience of divorce helps to illustrate the relationship. One standard deviation in each direction from the mean level of the divorce rate is used to separate the graph out by high and low divorce rate districts. As shown in graphs 4 and 5, districts with a high divorce rates react differently to divorce than districts with a low divorce rate. The differential of the two unique social contexts indicate an influence of the divorce rate on post divorce depression. The impact of divorce is much less in communities with a high divorce rate.

¹ When using the census divorce rate which includes all individuals who have ever received a divorce the relationship is slightly smaller.

Graph 4: County Level



Graph 5: Tract Level



Model 3 separates out recent divorces from divorces which have occurred more than three years ago. At the county level experiencing a recent divorce is associated with a .44 increase in depression. If the divorce is over three years ago is associated with a .25 increase in depression. At the tract level experiencing a divorce over three years ago is associated with a .17 increase in depression. This shows that more recent divorces tend to have a more significant impact on psychological well-being. The direction and magnitude of the interaction coefficients is similar to model 2. This strengthens the claim that the divorce rate has an inverse relationship with depression when experiencing a divorce. That is, when the divorce rate increases, depression as a result of divorce decreases.

<See Table 2>

When model 2 is separated out by age and gender, we see that the divorce rate has more of an effect on females and older adolescents. When a female experiences a divorce her level of depression increases by .26 at the tract level and .32 at the county level. Interestingly we see that at the tract level females experience a 1.2 lower rate of depression at a divorce rate of 100% compared to the 0% divorce rate. At the county level the 1.8 decrease is statistically insignificant. The male interaction of -.02 at the tract level is also statistically insignificant but surprisingly the 1.89 decrease in depression at the county level is significant. The difference between males and females reaction to life events probably accounts for this difference. The stress of life events, especially family related ones such as divorce, has been shown to be more salient for females (Maciejewski, 2001).

At the tract level young adolescents (ages 11-16) see a .21 increase in depression as a result of experiencing a divorce, while the results for older adolescents (ages 16-21)

reflect a smaller increase and are statistically insignificant. At the county level we see that at a divorce rate of 100%, older adolescents' depression is 2.1 lower than at a 0% divorce rate. This relationship is significant at the .05 level. These interesting findings could have to do with differentials in emotional susceptibility to social norms and perceptions of ordinariness. Older adolescents by virtue of their maturity and additional experience are more exposed to their immediate community. Therefore the divorce rate in their community would have more influence on their perceptions of normal family structure and notions of stigma. Documented gender and age differences in children's response and coping with the stress of divorce and other family events probably account for the divergence observed between the gender and age in the results above.

<See Table 3>

Sensitivity analysis

It is important to consider the possibility of alternate or competing explanations. There are a variety of factors which might be associated with both a community's divorce rate and an individual's level of depression. There might be a self selection bias, where people who are prone to divorce or have certain characteristics select communities where divorce is more common. Though as was observed, county and tract divorce rates were virtually identical on average for youth experiencing, and not experiencing divorce. There may be some shared set of values in differing communities which effect propensity for divorce and even depression. It could be that characteristics of the tract and county such as religiosity and poverty rate influence the divorce rate and are really what is accounting for the levels in depression in response to it. In order to explore these explanations contextual indicators for the poverty rate and level of religiosity are

included in the model in Table 4 to see if they account for the direct and interactive relationships between the divorce rate, an adolescent's experience of divorce, and depression.

Table 4 shows three models which introduce extra control variables including religiosity at the county level and contextual poverty at the tract level. Two variables were used to indicate the religiosity of the county; the proportion of self reported Catholics (model 1) and those who consider themselves religiously conservative (model 2). Neither variable turned out to have a statistically significant effect on depression. They actually indicated similar statistically significant results for changes in the divorce rate. The inclusion of percent religiously conservative in the model shows that at a 100% divorce rate depression due to divorce will be 1.79 lower while the inclusion of Catholics shows that it will be 1.78 lower. This is identical to the original results of the county level model 2. This indicates that the religiosity does not account for the effect of the divorce rate on depression due to divorce.

The poverty variable is the percent of people below the poverty line in the tract. Model 3 shows that a tract's poverty rate was not found to be significantly associated with youth depression, nor does it appreciably alter the pattern or statistical significance of the previous results. While the original model showed that at a divorce rate of 100% we see a decrease in depression by .68, the inclusion of the poverty variable shows a decrease of .69. This suggests that poverty does not account for or rule out the observed phenomenon of the divorce rate effecting adolescents level of depression following a divorce. Furthermore the interaction between the sensitivity analysis variables and the divorced variable is insignificant. This reaffirms the exclusion of religion or poverty

accounting for the observed interaction. The elimination of alternate or competing explanations strengthens the case for the significance of the divorce rate moderating depression in adolescents following a divorce.

<See Table 4>

VI. Discussion

The findings of this paper suggest that social context has a moderating effect on the impact of a divorce on adolescents. Specifically, districts with higher divorce rates have reduced rates of depression resulting from parental separation. We can speculate that the acceptability and public perception of divorce in high divorce communities is what diminishes negative feelings such as depression associated with divorce. However it is unclear as to exactly how the social context influences the ultimate impact of a divorce. In this section interesting findings, policy implications of the results, limitations of the paper and possible further avenues of research will be discussed.

Differences in results from the tract level and county level were fairly interesting and could be viewed as opposite from what would be expected. That is, it would be assumed that at the smaller community level of the tract one would anticipate that the effects of the divorce rate would be more significant because social perceptions and norms as well as stigma operate in one's immediate community. However, the larger block of a county reported a larger impact. This could indicate that the county is a better indicator of social context and that at county level there are some strong cultural contexts which increase the effect of the divorce rate on depression. Counties differ widely across the US and people could filter themselves into regions based on sets of broad values and demographics. An example of this larger unit of differentiation could be the "Bible Belt" or urban areas. In this way a neighborhood represents a microcosm of the larger county. This might account for the larger effect observed at the county level.

Policy implications

As divorce becomes a common occurrence in our society it is important to examine its effects on children and adolescents. Policy makers and researchers have recognized the negative impact family dissolution has on children and have begun to explore ways to reduce the consequences of divorce. This study has important policy implications because it highlights the effect that social context and perception of divorce have on children's reaction to such a potentially disruptive life event. The findings of this study do not suggest that legislators should seek to increase the divorce rate in order to reduce adolescents' negative reaction to it but rather that they seek to better understand why a high divorce rate buffers the experience of divorce and focus on improving these forces. Legislators deal with issues at the macro-level by setting the agenda for social policy such as divorce, poverty and child support legislation. By examining the broad social context that these policies create they can be evaluated and improved. Specifically divorce legislation varies significantly by state. These policies affect the procedures for obtaining a divorce, the ease of divorce, and consequences of divorce. It is important for policy makers to understand the impact that divorce has on children's psychological well-being because it is influenced by the social context which legislators indirectly create.

Once the mechanisms through which divorce effects children are recognized society can take steps to reduce the negative impact of parental divorce by realistically informing children and adolescents of the frequency of divorce in our culture through divorce education. Programs can be developed to focus on known risk factors for children and highlight the broader social context to encourage functional adjustment (Kelly & Emery 2003). Possible intervention strategies and resources for parents can also be

developed to assist in divorce transitions (Jasinski, 2003). The goal would be to recognize social factors that can decrease the negative psychological impact of divorce on kids and implement policies tailored to these social contexts.

Limitations

When conducting statistical analysis there are usually limitations to the ultimate predictive value of the model. As discussed above in the data section there is always a measurement problem when you do not have an indicator in the dataset highlighting the exact attribute you intend to explore and you have to construct it from other variables. The variable used for divorce was not an exact measure because it relied on a parental response which did not definitively indicate whether the adolescent had experienced a divorce. The study would also have benefited from information on precisely when the divorce occurred. The amount of years since the child's biological father had lived with the respondent was used to approximate the recency of the divorce. Ultimately a more precise measure of divorce at the individual level would have been very helpful.

Further research

The limitations of this paper leave opportunities for further research and improvement. The category of separated parents could be looked at individually instead of it being combined with divorced. The interaction of gender and depression as a result of divorce also needs to be examined more closely. It would also be interesting to take it one step further and explore state divorce legislation and its interaction with the divorce rate and ultimately child psychological well-being.

While there seems to be an impact of the divorce rate on adolescent depression following a divorce it is unclear through which mechanism the social context exerts this

influence. Several possible explanations including stigma, comparison and support were offered but it is difficult to definitively choose one without measuring these competing processes. Social stigma might work through individual perceptions of social norms and acceptability of divorce which is reflected in the divorce rate. As a corollary the use of social comparison to one's immediate community may determine whether a divorce causes increased depression. In communities with high divorce rate adolescents could be less affected by a divorce because they view it as the norm. It could also be that social support from family and friends is the real determinant of the ultimate impact of divorce. The availability of friends and family to help adolescents adjust and cope with divorce may be more important than social perception of divorce in mediating the degree of negative impact. The relationship between divorce and depression is complex and there are inevitably other valid alternate explanations for the impact of divorce on adolescents.

Further research could include a more in depth focus on identifying the mechanism through which the social context effects adolescent depression. Isolating and measuring concepts such as stigma, social support, social comparisons, and socioeconomic status, as indicators would provide a more vivid picture of the interaction reported in this paper.

VII. Conclusion

Through the use of the Addhealth dataset and hierarchical linear models for analysis this paper investigates the interaction between the divorce rate and adolescent depression. It was hypothesized that the divorce rate of an adolescent's community would moderate their level of depression in response to a divorce. Divorce has been significantly linked to, on average, negative psychological well-being of adolescents but this paper examined how the social context influences this relationship. It was shown that through immersion in a community with a high divorce rate, where separated couples are widespread, adolescents are not as significantly impacted by divorce. This is perhaps because it is commonplace and not as stigmatizing. The results showed a statistically significant inverse relationship between the divorce rate and levels of depression. As the divorce rate in one's community increases, depression as a result of divorce is reduced. However, it is important to note that social contextual factors other than stigma and social comparison could be at work. Socioeconomic status and social support may be the mechanisms that are highlighted in the results.

Table 1: Descriptive Statistics

	No Divorce	Divorce	T-tests of group Differences
depression	-0.013	0.04	*
age	15.8	15.67	*
female	0.513	0.5237	
black	0.21	0.27	*
hispanic	0.146	0.115	*
asian	0.076	0.03	*
amerothr	0.018	0.018	
welfare	0.064	0.151	*
paredyrs	13.95	13.8	*
tract divorce rate	0.1051	0.1144	*
county divorce rate	0.106	0.1069	*

p-value < .05 *

**Table 2: Multi-level Models of Adolescent Depression
Regressed on Independent and Social Contextual Variables**

	Model #1				Model #2				Model #3			
	County		Tract		County		Tract		County		Tract	
intercept	-0.2818	**	-0.3599	***	-0.3342	***	-0.386	***	-0.3372	***	-0.391	***
age	0.03532	***	0.0353	***	0.03509	***	0.0353	***	0.03511	***	0.0354	***
female	0.1586	***	0.1585	***	0.1583	***	0.1583	***	0.1585	***	0.1588	***
black	0.02373		0.01637		0.02433		0.0174		0.02548		0.0188	
hispanic	0.1585	***	0.1484	***	0.1567	***	0.1485	***	0.1562	***	0.1473	***
asian	0.2669	***	0.2604	***	0.2652	***	0.26	***	0.2634	***	0.258	***
amerothr	0.1897	**	0.1854	***	0.1892	***	0.1842	***	0.1898	***	0.1848	***
welfare	0.07463	**	0.07528	**	0.07393	**	0.0776	***	0.07502	**	0.0794	***
paredyrs	-0.026	***	-0.0257	***	-0.0257	***	-0.026	***	-0.0257	***	-0.026	***
never married	0.1459	***	0.1447	***	0.1422	***	0.1348	***	0.1317	***	0.1222	***
divorced	0.08751	***	0.08685	***	0.276	***	0.161	***				
divorce rate	-0.8072	*	-0.027		-0.2616		0.2153		-0.2216		0.2546	
divorced*												
divorce rate					-1.7822	**	-0.683	*				
divorce past									0.252	**	0.1709	***
divorce recent									0.4346	**	0.1212	
divorce past*												
divorce rate									-1.684	*	-0.89	**
divorce recent*												
divorce rate									-2.9076		0.0115	

p-value < .05 *

p-value < .01 **

p-value < .0001

Table 3: Multi-Level Models by Gender and Age

	Female		Male		Young		Old	
	County	Tract	County	Tract	County	Tract	County	Tract
intercept	0.0144	-0.0658	-0.561 ***	-0.579 ***	0.2797 ***	0.213 ***	0.165 *	0.1449 *
female					0.1727 ***	0.1724 ***	0.1354 ***	0.1357 ***
age	0.0283 ***	0.02824 ***	0.0438 ***	0.0441 ***				
black	0.0104	0.00969	0.0502 *	0.0373	-0.002	-0.011	0.0645 *	0.0585 *
hispanic	0.166 ***	0.1545 ***	0.154 ***	0.1457 ***	0.165 ***	0.1542 ***	0.1734 ***	0.1651 ***
asian	0.3019 ***	0.2961 ***	0.2494 ***	0.2453 ***	0.1802 ***	0.1754 ***	0.3349 ***	0.329 ***
amerother	0.155 *	0.1494 *	0.2386 ***	0.2338 ***	0.2015 **	0.1975 **	0.1879 **	0.1807 *
welfare	0.0555	0.06388	0.0963 **	0.0931 **	0.0279	0.0318	0.1172 ***	0.1218 ***
paredyrs	-0.03 ***	-0.03 ***	-0.022 ***	-0.021 ***	-0.033 ***	-0.033 ***	-0.021 ***	-0.021 ***
never married	0.1821 ***	0.1669 ***	0.1003 *	0.1002 *	0.1614 ***	0.1528 ***	0.1178 **	0.114 *
divorced	0.3208 **	0.2625 ***	0.2435 *	0.0437	0.309 **	0.2045 ***	0.279 *	0.1093
divorce rate	-0.634	0.1905	0.1759	0.2821	-0.41	0.2411	-0.109	0.1231
divorced*								
divorce rate	-1.809	-1.2182 **	-1.893 *	-0.026	-1.769	-0.766	-2.137 *	-0.527

p-value < .05 *
p-value < .01 **
p-value < .0001 ***

Table 4: Sensitivity Analysis

	County model			Tract model		
	#2	1	2	#2	3	
intercept	-0.3342 ***	-0.346 ***	-0.317 ***	-0.3859 ***	-0.3958 ***	
age	0.03509 ***	0.03485 ***	0.03491 ***	0.03528 ***	0.03537 ***	
female	0.1583 ***	0.1582 ***	0.1581 ***	0.1583 ***	0.1581 ***	
black	0.02433	0.02413	0.02573	0.01744	0.01017	
hispanic	0.1567 ***	0.1523 ***	0.1513 ***	0.1485 ***	0.1476 ***	
asian	0.2652 ***	0.2614 ***	0.2593 ***	0.26 ***	0.2623 ***	
amerother	0.1892 ***	0.1861 ***	0.1857 ***	0.1842 ***	0.1816 ***	
welfare	0.07393 **	0.07406 **	0.0737 **	0.07759 ***	0.07277 **	
paredys	-0.0256 ***	-0.0258 ***	-0.0258 ***	-0.0256 ***	-0.025 ***	
below poverty line					0.1257	
catholic		0.04664				
conservative			-0.0814			
never married	0.1422 ***	0.1421 ***	0.1413 ***	0.1348 ***	0.1319 ***	
divorced	0.276 ***	0.2756 ***	0.2766 ***	0.161 ***	0.1622 ***	
divorce rate	-0.2616	-0.1785	-0.233	0.2153	0.07611	
divorced*divorce rate	-1.7822 **	-1.7808 **	-1.7927 **	-0.6828 *	-0.6927 *	

p-value < .05 *
p-value < .01 **
p-value < .0001 ***

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