Adult Identity and Risk Behavior: Establishing Psychosocial Maturity as a Protective Factor for Sexual Minorities

THESIS

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Abstract

Prior research suggests that sexual minorities [e.g., lesbian, gay, and bisexual (LGB) identified individuals] are more susceptible than their heterosexual peers to behaviors such as substance use, criminality, and suicidality during both adolescence and young adulthood. Such scholarly work has examined the underpinnings of this association (Marshal et al. 2009; Fedewa & Ahn 2011; Safren & Steinberg 1999). Perhaps the most prominent explanation, minority stress theory suggests that due to discrimination and stigma, subjective age (i.e., one's sense of maturity) is increased by membership in the disadvantaged sexual minority group, while psychosocial maturity (i.e., the mental and emotional competence that accompanies genuine adult development) is stunted in sexual minority groups. Subjective age and psychosocial maturity, both aspects of adult identity, have been shown to influence adolescents' risk behavior and young adults' mental health (Galambos et al. 1999; Benson 2014). Yet no research links these two components of adult identity to risk behavior during the transition to young adulthood. Additionally, little work has been done to consider whether sexual minority youth's increased probability of risk behavior is due to differing levels of adult identity formation. Using the National Longitudinal Study of Adolescent Health (n=11,404; 53.6% female; ages 18 to 26 years), this study explores how two key components of adult identity, subjective age and psychosocial maturity, influence levels of substance abuse, criminality, and suicidality. This study further examines whether subjective age and
psychosocial maturity differ between sexual minority young adults and their heterosexual peers, and additionally explores whether the relationships between subjective age and psychosocial maturity and risk behavior vary by sexual minority status. Results from ordinal and logistic regression analyses indicate that psychosocial maturity is significantly associated with reduced odds of all three risk behaviors. While the strength of these associations is similar for both sexual minority and heterosexual respondents, sexual minority status is associated with greater odds of reporting a higher subjective age and lower odds of reporting higher psychosocial maturity. These results are consistent with previous work on minority stress and adult identity and suggest successful adult psychosocial development has a pronounced protective effect against risk behavior for sexual minority young adults.
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Introduction

Sexual minority youths have been shown to be at greater risk of substance use (Marshal et al. 2009), criminality (Russell et al. 2001), and suicidality (Zhao et al. 2010). Research has shown that social networks and peer influence (Prinstein et al. 2001), newfound autonomy and freedom from supervision (DiClemente et al. 2001), and cognitive development (Steinberg 2007) all contribute to these risk behaviors among the general adolescent population. Yet, the full extent to which these factors specifically influence sexual minority youths’ risk behavior is unknown. Research has only more recently begun to examine sexual minority status, a stigma predicated on having a non-heteronormative identity, as a predictor alongside common correlates such as sex, race, and class. Stemming from the unique stressors of internalized homophobia and stigma (Bauermeister et al. 2010), possible peer exclusion and detachment (Hatzenbuehler et al. 2008), and elevated rates of verbal and physical abuse from friends and family (Savin-Williams 1994), risk disparities between sexual minority youths and their sexual majority peers are sometimes found to be as large as those between influential demographic categories such as sex or race (Ueno 2010). Thus, sexual minority status is a critical axis of social status requiring further attention.

The transition to adulthood is another focal dimension in understanding risk behavior, as it can alternately exacerbate and protect against negative outcomes (Galambos et al. 1999; Padilla-Walker et al. 2012; Sampson and Laub 2003). A recent
body of literature has examined the theoretical underpinnings of youths’ developmental process. Arnett (2000) introduces ‘emerging adulthood’ as a new stage in the life course that bridges the gap between adolescence and early adulthood during the ages of 18 to 25. This period following adolescence is defined by its lack of concrete roles and characteristics, diminishing the importance of traditional markers such as marriage, childbearing, and employment in attaining adult status while elevating the influence of an individual’s sense of responsibility for the self, feelings of autonomy in decision-making, and financial independence. Little is known about emerging adulthood as it pertains to sexual minorities specifically. However, it is theoretically likely that sexual minority status will significantly shape youths’ adult identities given the barriers to traditional markers of adulthood faced by sexual minority youths (e.g., heterosexual coupling) and the repercussions of orientation-based stigma for one’s self-concept (e.g., internalized homophobia). The effects of sexual minorities’ adult identities on risk behavior have not yet received proper scholarly attention.

Work on risk behavior among sexual minority adolescents is most commonly concerned with developing strategies for deterrence. Several studies have examined possible factors for discouraging risk, such as religious involvement (Dahl and Galliher 2012), participation in gay-straight alliances (Fetner et al. 2012), online support communities (Baams et al. 2011), adult mentors (Gastic and Johnson 2009), and peer and family acceptance (Shilo and Savaya 2011). While some factors that promote positive development are unique to sexual minorities (e.g., coming out), others (e.g., self-esteem) are normative in that they are relevant to all youth (Russell 2005). Given the cultural

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importance of becoming an adult, adult identity is more likely to be of the normative variety. Thus, this study tests whether adult identity is associated with risk behavior among a general population, and further whether the strength of such associations differs by sexual minority status. Differential effects can indicate whether certain factors are particularly influential for sexual minority youths. Crafting practical policy requires knowing which risk factors have the most impact on the minority target population; if different groups vary wildly in the root causes of their risk behavior, then services must be more specialized.

Utilizing data from Add Health that cover the transition period into young adulthood, this study seeks to clarify the role of adult identity attainment in affecting risk behavior for sexual minority young adults. If risk behavior continues into adulthood, negative outcomes will disproportionately accrue for this population, only widening the gap in well-being between adult sexual minorities and their sexual majority peers. By investigating the years when sexual minority youths make their debut into adult society, this study considers the impact of adult identity, separate from aging and accomplishments that usually confer adult status, on a successful and healthy transition for a neglected at-risk population. In the following section, I use empirical research primarily from the emerging adulthood and minority stress literatures to inform my study hypotheses on the relationships between sexual minority status, adult identity, and risk behavior.
**Prior Research**

*Emerging Adulthood*

This study is guided by the emerging adult framework (Arnett 2000) that posits that the life course stage immediately following adolescence has qualitatively changed in past decades. In particular, traditional adulthood transitions (e.g., marriage, childrearing, financial independence, full-time employment, home ownership) have been postponed and their importance for adult identity diminished. Recent work has suggested that young adults who still adhere to certain age-graded expectations of when they will achieve these life course benchmarks yet fail to meet them at the perceived appropriate time experience more depressive symptoms than their peers who do not have such expectations (Mossakowski 2011). ¹ In their articulation of life course theory, Sampson and Laub (2003) describe certain role transitions (e.g., employment, marriage and childbearing) as ‘knifing off’ points that lead to desistence in deviant behavior because the individual has become more attached to conventional society.

Arnett (2000) argues, however, that these major achievements of adulthood take on less significance immediately following adolescence; instead, perceiving oneself as mature, competent, and independent may be more salient for establishing an adult identity than such material accomplishments (Arnett 2000). Research has shown that the traditional markers still matter; Nelson and Barry (2005) show that compliance with

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¹ Although the age range of the sample in this study was considerably older at 29 to 37 years.
norms, family development, and social role transitions serve as important criteria for considering oneself an adult. Furthermore, this research found that the 18 to 25 year-old students who considered themselves to be adults reported achieving more of these criteria, experienced less depression, and engaged in fewer risk behaviors than their emerging adult peers. However, their study opted to dichotomize self-perceived adulthood and sampled only college students, reducing its generalizability to the wider population of young adults. As a result, measures of both concrete achievements and self-perceptions are included in this study to acknowledge both arguments about the nature of adulthood. These self-perceptions underlie two of the most important aspects of adult identity: subjective age, which is one’s sense of their own maturity relative to their peers and separate from chronological age, as well as psychosocial maturity, which is one’s degree of mental and emotional competence (Benson and Elder 2011).

Despite the empirical ambiguity of subjective age and psychosocial maturity, there is reason to suspect that they are particularly relevant to sexual minorities. Given that sexual minority young adults experience discrimination that can hinder adult role transitions in the workplace (Badgett et al 2007), education (Fassinger 2008), or institutionalized romantic relationships (Herek 2007), life course transitions such as those cited may be less relevant to validating their adult identity, potentially heightening the importance of their subjective characteristics. The impact of sexual minority status also extends to risk behaviors in emerging adulthood. Consistent with the predictions of longitudinal work initiated in adolescence, various negative outcomes persist into this new life course stage and may in fact reach their peak rates of prevalence (Nelson and
While risk behavior incidence rises for all young adults, sexual minority individuals experience higher suicidality and depressive symptoms (Marshal et al. 2013), greater incidence of alcohol abuse (Dermody et al. 2014), and elevated rates of substance use (Talley et al. 2010) during the years of emerging adulthood.

While much of the reviewed work emphasizes the differences between sexual minority young adults and their peers, Jenkins and Vazsonyi (2013) suggest that sexual minority and heterosexual youths follow a very similar psychosocial trajectory during the transition to adulthood, with both groups experiencing equivalent declines in depression and social rejection and increases in self-esteem and happiness. Yet they note that sexual minority youths initially have higher levels of depression and lower levels of self-esteem, meaning that disparity ultimately persists into emerging adulthood. Recent evidence also suggests that some sexual minority individuals may not drastically differ in their expectations for adulthood, with some gay males describing their desire to replicate nuclear families and raise children (Rabun and Oswald 2009). If these results are applicable to the cohort studied in Add Health, one might expect the process of adult development to be roughly equivalent for both heterosexual and sexual minority adolescents in the present study. Yet, studies of sexual minorities’ risk behavior in young adulthood have not taken adult identity into account, despite the potential as an explanatory factor.

**Minority Stress**

The minority stress hypothesis argues that marginalized groups in society face risk factors (e.g. internalized racism) inherent to their minority status; these risk factors
explain higher rates of chronic stress among certain subpopulations (e.g., such as females or racial minorities). Sexual minority status is one such minority category; Meyer (2003) shows that unique stress processes, such as gay-related victimization and anxiety over disclosure of orientation, help to account for the prevalence of poor mental health among sexual minority individuals. In a meta-analysis of work on substance use among lesbian, gay, and bisexual (LGB) adolescents, Goldbach et al (2014) find that sexual majority and minority adolescents share similar determinants of substance abuse, such as lack of social support, home instability, and victimization; the sexual minority group’s elevated rates of substance use can be explained due to greater prevalence of these risk factors. In an online study of Israeli adolescents and young adults, Shilo and Mor (2014) considered a similar constellation of minority stressors: internalized homophobia, or self-loathing brought on by cultural taboos against same-sex attraction; outness, or the degree to which one informs others of their sexual orientation; and proximal and distal harassment, or first-hand and indirect experiences of victimization, respectively. Relative to heterosexual peers, the sexual minority young adults in this sample experienced greater mental distress, lower well-being, and engaged in more risk behaviors.2

The concept of ‘subjective weathering’ is illustrative in explaining elevated risk behavior among sexual minority young adults by way of its impact on subjective age. The self-perceived experience of ‘weathering’ is a sense of feeling older than one’s actual age due to facing situations and emotions beyond one’s years. The minority stress

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2 In contrast to some past work, outness was found to be associated with negative outcomes while the other stressors correlated significantly with all negative outcomes, save for distal harassment (i.e. personally knowing someone who had been victimized for their orientation) and well-being.
hypothesis is relevant to this work given the attention to unique chronic stressors faced by
groups that remain systematically oppressed throughout the life course. For instance,
Foster et al (2008) look exclusively at females transitioning into adulthood and consider
sex-related stressors such as timing of menarche and intimate partner violence in a study
on the phenomenon of subjective weathering. The authors find that childhood and
adolescent stress promote subjective weathering, an experience that is in turn associated
with elevated depressive symptoms in young adulthood, implying that ‘feeling’ older has
negative repercussions just as aging itself did for deviance (Shilo and Mor 2014).

In a study of subjective aging, Benson (2014) considers the role of psychosocial
maturity, the mental and emotional competence that accompanies genuine adulthood.
While subjective weathering may increase one’s subjective age, psychosocial maturity is
relatively unaffected, necessitating their separate consideration in the present study.
Benson finds that subjective weathering can have negative outcomes in the form of
elevated depressive symptoms, but that it is an insufficient cause; those who feel they
have grown up faster but lack genuine psychosocial maturity are the ones who are
negatively impacted, while maturity protects against such outcomes. Consistent with the
minority stress hypothesis, greater exposure to adversity and stress accumulation is found
to be largely responsible for accelerating one’s sense of aging, but certain stressors such
as abuse can have long-reaching effects against which maturity may not guard.

Taken together, these findings show that sexual minority individuals clearly have
unique stressors directly associated with their sexual orientation or gender identity
(Meyer 2003; Goldbach et al. 2014; Shilo and Mor 2014). These stressors are found to be
predictive of negative outcomes for mental health, physical well-being, and risk behavior. The application of the minority stress framework to the process of forming an adult identity is still in its nascent stage, and the present study contributes to this effort by examining subjective age and psychosocial maturity in the context of sexual minority risk behavior. This research also considers the possibility that adult identity may uniquely affect the risk behavior of sexual minorities. Previous research has shown that certain factors, such as religiosity, can differentially affect risk behavior for sexual minority groups (Dahl and Galliher 2012; Rostosky et al. 2010). I detail my conceptual framework and formal hypotheses in the following section.
Framework

(Insert Figure 1 here)

Building off past research, the framework in Figure 1 is employed to illustrate the hypothesized chain of associations and to tackle the primary questions posed by this study: does adult identity serve as a predictor of risk behavior? Does sexual minority status in turn affect an individual’s attainment of adult identity? Finally, does adult identity moderate the established association between sexual minority status and risk behavior?

Figure 1 takes as its starting point the respondent’s sexual minority status as a preceding characteristic which is known to be associated with risk behavior. Next, associations are drawn between adult identity and risk behavior. Adolescents who perceive themselves as older than their peers are known to engage in more maladaptive behaviors; this relationship may result from the perceived adultness of behaviors such as alcohol use and the expression of autonomy from parents by way of rebellion (Galambos et al. 1999). For young adults, higher subjective ages may signify a harsher course of development and a greater degree of self-reliance. The subsequent need for an outlet for stress and financial strain may promote substance use and criminality as coping mechanisms. Conversely, greater emotional and cognitive development have been shown to protect against negative outcomes such as depression (Benson 2014). Psychosocial maturity captures this dimension of adult growth and may promote more prosocial
attachments and future-oriented thinking, both of which ought to deter risk behavior. Therefore, I make the following hypotheses:

**Hypothesis 1a:** Subjective age will be positively associated with risk behavior.

**Hypothesis 1b:** Psychosocial maturity will be negatively associated with risk behavior.

Subjective weathering has been shown to affect groups burdened with minority stress (Benson 2014). Parents abusing and disowning their sexual minority children is all too common (Savin-Williams 1994), and the weakening of the parent-child relationship may force one to grow up quickly. Greater exposure to maltreatment from their peers and society at large also contribute to sexual minorities dealing with trials ‘beyond their years,’ as gender and sexual nonconformity provoke intolerance beginning in the middle school years (Heinze and Horn 2014). Aging relatively faster than their peers may also alienate sexual minority youths from their age cohort, leading them to associate with older adults who are likely more deviant. Other research has also demonstrated that healthy mental development is more likely to be interrupted for sexual minorities (Ueno 2010). Fewer social attachments may stunt emotional growth and diminish one’s self-confidence. Coping through instant gratification may lead sexual minorities to ignore risks, becoming more immature and less considerate in the process. Therefore, I make the following hypotheses:

**Hypothesis 2a:** Sexual minority status will be positively associated with subjective age.

**Hypothesis 2b:** Sexual minority status will be negatively associated with psychosocial maturity.
Associations between certain factors and risk behavior among the general population do not always hold for sexual minority youths, and may even operate in contradictory ways. For instance, religiosity, normally considered to be a strong protective factor, has been shown to both weakly protect against risk as well as enhance risk among this group (Dahl and Galliher 2012; Rostosky et al. 2010). There is good reason to suspect a difference in the effect strength of sexual minority status on risk behavior for those with varying adult identity development. Subjective age is likely to represent a more stressful life course for sexual minorities, whereas it might otherwise demarcate a gradual acceptance of more adult responsibilities for their peers. Psychosocial maturity may be a more valuable resource for sexual minority young adults who are forced to rely on themselves in the absence of healthy relationships with family and peers than it is for their peers who have more of these safeguards in play. However, the dearth of research on the intersection of sexual minority status, adult identity, and risk behavior hinders predicting the likely direction of associations in the present study. Therefore, I make the following hypothesis:

*Hypothesis 3: The association between sexual minority status and risk behavior will be moderated by adult identity.*
To investigate the interplay between sexual minority status, adult identity, and risk behavior while also controlling for adolescent context, I use both Waves I and III of the National Longitudinal Study of Adolescent Health (Add Health). This nationally representative panel study has collected a vast range of information on an adolescent cohort’s health, relationships, behaviors, education, environment, and even biometrics. Waves I and III, collected in 1994 and 2001, capture the cohort between the age ranges of 11 to 19 and 18 to 26. Wave I contains survey responses that allow this study to examine the various resources and stressors that will shape the adolescent’s progression into young adulthood. Wave III follows up on many of these relationships and behaviors while acknowledging the new adult context and inquiring into the respondents’ subjective ages and psychosocial maturity. Thus, the associations between adult identity and substance use, criminality, and suicidality can be more closely scrutinized since past behavior and social attachments in Wave I are controlled. Even an absence of differential effects between sexual minority and majority respondents can still be illuminating if subjective age and psychosocial maturity prove to be distinctly influential for risk behavior, a conclusion not yet firmly founded in the emergent adulthood literature.

The large national sample of Add Health not only allows for generalizability, but it offers an advantage over more selective studies that recruit only sexual minority individuals by offering reliable comparative analyses. This research also explores which
factors are particularly influential for sexual minority young adults in achieving a healthy adult identity relative to their exclusively heterosexual peers, which requires adequate numbers of both types of respondents, multi-faceted probes that tap into the variable components of adult identity, as well as a detailed interrogation of relationships and life context that considers the age of respondents; all of these needs are met by Add Health.
Measures

Dependent Variables

The dependent variables, substance use, criminality, and suicidality, are all measures comprised of Wave III items that ask about respondents’ behavior over the past year. Substance use is an ordinal measure, the sum of three dichotomous measures (2.8% missing; 0 = No, 1 = Yes): whether the respondent has engaged in binge drinking over the past year, whether the respondent has engaged in binge drinking over the past two weeks, and whether the respondent has consumed any illegal or non-prescribed drug over the past year. Criminality is treated as a dichotomous measure (3% missing; 0 = No, 1 = Yes) of whether the respondent has committed any one of several criminal behaviors over the past year, such as theft, property damage, carrying weapons, and drug dealing. Suicidality is an ordinal measure, the sum of two dichotomous measures (1.3% missing; 0 = No, 1 = Yes): whether the respondent has had any suicidal thoughts over the past year, and whether the respondent has attempted suicide over the past year. These three outcomes capture a range of behavior varying in severity and the degree to which they are externalizing or internalizing.

Key Independent Variables

To test the hypotheses this study proposes, constructs are needed for adult identity and sexual minority status. Following Benson and Elder’s (2011) operationalization of
adult identity, subjective age (.5% missing) and psychosocial maturity (3.0% missing) are each summed and standardized as ordinal measures (0 = Low, 8 = High) from four three-point survey items assessing relative social maturation, feeling older than one’s peers, confidence, and immaturity (reverse coded), among other characteristics. Scores for both variables tend towards the upper bound, but subjective age shows greater variation in response than psychosocial maturity. Operationalizing adult identity as two distinct components offers an improvement over Nelson and Barry (2005), who ask respondents simply whether they identify as an adult or not. Benson and Elder (2011) note that subjective age and psychosocial maturity are not necessarily congruent with one another, making it problematic to treat adult identity as a uniform whole. Measuring adult identity in this more nuanced fashion allows insight into the effects of the respondents’ subjective evaluations and their genuine maturation.

Items at Wave I fail to adequately capture, and indeed may conceal, non-heterosexual attraction or orientation due to heteronormative phrasing of questions and limited relationship histories. Wave III offers a significant improvement, asking not only about romantic attractions, but more importantly about what orientation best describes the respondent, offering a discrete gamut of responses (all straight, mostly straight, bisexual, mostly gay, all gay, not attracted to males or females, or don’t know). Sexual minority status is a dichotomous measure (.4% missing; 0 = Exclusively Heterosexual, 1 = Sexual Minority) based on the two items from Wave III: orientation and romantic attraction; self-reported orientation reveals a slightly greater proportion of the sample (10 percent)

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3 I do not employ their four-part typology here, opting instead to focus on the two constituent components.
that does not identify as exclusively heterosexual, and the inclusion of any same-sex romantic attraction increases the amount to slightly over 12 percent. Sexual minority status measures from Wave I (any same-sex partner or romantic attraction) do not even turn up five percent, likely stemming from a lack of outness and incomplete consolidation of orientation.

Controls

Parental attachment is included in the analyses given its mediating effect on risk behavior (Needham and Austin 2010) and bearing on adult identity (King 2012; Padilla-Walker et al. 2012). Parental attachment is measured ordinally (4.6% missing; 0 = Very Low Attachment, 12 = Very High Attachment), having been summed from three Likert-scale items assessing relationship warmth, closeness, and enjoyment of time together of either a current residential or previous residential parental figure; for respondents with two parental figures, this score is averaged, following the procedure of Needham and Austin (2010). The traditional markers of adulthood, as well as some of the more modern signifiers identified by Arnett (2000), are included in the analyses. They are distinguished as financial independence (.3% missing; 0 = Not Independent, 7 = Very Independent) and family development (1.5% missing; 0 = Undeveloped, 4 = Very Developed), both ordinal measures summed from several dichotomous items. Being employed, having one’s own residence, and owning a credit card account are some of the determinants of the former, while the latter is concerned with respondents’ cohabitation, marital, and parental status. Having ever cohabited or married might contribute to perceiving oneself as adult, but considering Arnett’s view that emergent adulthood can be a transitory and fleeting stage
where regression is possible, most of these measures touch on one’s current and immediate situation.

Controls for the traditional demographic characteristics such as sex (0 = Male, 1 = Female), age (measured in years at Wave III), and race are included; the latter is self-reported and sorted into three categories: non-Hispanic white, non-Hispanic black, and other. Family structure is measured as whether a respondent came from a home with both their biological mother and father present (0 = No, 1 = Yes); a little over half of the sample identify as such. Education is operationalized ordinally; values include 0 (less than high school), 1 (completed high school), and 2 (some college or more). Personal importance of religion (.8% missing; 0 = Not Important, 3 = Very Important) is also included, given its established protective influence on adolescents. 4

Sexual minority status is known to be associated with poorer mental health (Ueno 2010), lower self-esteem (Bauermeister et al. 2010), more physical health complaints (Cochran and Mays 2007), and higher violent victimization (Russell et al. 2001). These four traits are conceptualized in the analyses as ‘well-being’ due to measuring related aspects of respondents’ enduring mental, emotional, and physical status; the constituent components of well-being are known to mediate some of the relationships between sexual minority status and risk behavior (Stone et al. 2012; Ostrowsky and Messner 2005; Lewinsohn et al. 2001). Following Diamond and Lucas (2004), well-being is comprised of a condensed form of the CES-D depression scale (.5% missing; 0 = Not at All Depressed, 26 = Very Depressed), as well as a scale for self-esteem (.1% missing; 0 =

4 The effects may be more mixed for sexual minority individuals (Rostosky et al 2010; Dahl and Galliher 2012).
Very Low, 16 = Very High). To capture physical wellness and stress, respondent’s perceptions of their general health (.0% missing; 0 = Very Poor Health, 4 = Very Good Health) are included, as well as exposure to violence over the past year (1.1% missing; 0 = No Exposure, 1 = Received Exposure), a dichotomous measure based on several items which ask if the respondent has been a witness, victim, or practitioner of physical violence. Overall, these four components partially tap into the experience of minority stress.

Comparable forms of the outcomes of interest are included from Wave I as dichotomous controls (0 = Did Not Occur, 1 = Did Occur), again using the past year at the time of interview as the frame of reference; these measures include past binge drinking (.2% missing), past drug use, past delinquency (.8% missing), past suicidal thoughts (.4% missing), and past suicide attempts. Wave I also provides social attachment (1.5% missing; 0 = Very Low, 38 = Very High), a composite measure of feeling cared for by one’s friends, family, teachers, and adults in general. Stressful events such as friends’ and family’s suicide attempts (.8% missing; 0 = No Exposure, 4 = High Exposure) are included due to their nontrivial incidence, as well as their association with adolescent suicidality (Feigelman and Gorman 2010). Relative pubertal development (.7% missing; 0 = Comparatively Slow, 4 = Comparatively Fast), an ordinal measure, is included, asked to both males and females on whether they feel they are maturing at a faster, slower, or similar rate to their peers. Finally, variables are included for whether a respondent had ever had a romantic relationship (0 = No, 1 = Yes) or whether a
respondent had ever been pregnant or impregnated someone else (0 = No, 1 = Yes) at the time of Wave I’s collection.
Method

Prior to the analyses, respondents with missing data or who refuse or are unable to answer any questions were omitted from the sample. The removal of these missing cases is particularly consequential for the outcome variables, as there are 718 respondents, or about 5.2 percent of the unrestricted sample, with missing data on any one risk behavior. The initial sample after construction of all pertinent measures consisted of 13,806 respondents, but several variables required removal of missing cases, eventually reducing the final sample size to 11,400. The percentage of cases missing is reported with each variable when applicable in the preceding section. Refusals accounted for the majority of missing responses, particularly for more sensitive measures such as substance use, criminality, suicidality, and exposure to violence. Only in the case of parental attachment were respondents with otherwise legitimate responses (n = 499) removed since the subject had to report having either a mother or father figure, regardless of whether the figure was a biological relative or legal guardian. Supplementary descriptive analyses suggest that the full sample and restricted sample do not meaningfully differ from one another (available upon request).

The analyses begin with descriptive statistics and a comparison of means by sexual minority status for key variables to determine whether this subpopulation is coming from a different ‘starting point’ as suggested by Jenkins and Vazsonyi (2013). The use of many variables from two time points adds validity to any potential findings;
utilizing dichotomous and simple ordinal measures may relax efficiency concerns, but it may also mask important variation. However, this study is more concerned with general findings rather than with causally mapping relationships for different sexual minority subgroups.

Three primary hypotheses, with subhypotheses, are analyzed in the present study. Hypothesis 1a posits that subjective age will be positively associated with risk behavior, while Hypothesis 1b posits that psychosocial maturity will be negatively associated with risk behavior. Substance use and suicidality are both ordinal outcomes and call for ordinal logistic regression analyses, but criminality is dichotomous, necessitating an ordinary logistic regression analysis.

Hypothesis 2a posits that sexual minority status will be positively associated with subjective age, while Hypothesis 2b posits that sexual minority status will be negatively associated with psychosocial maturity. Given the ordinal nature of these outcomes, ordinal logistic regression analyses are appropriate.

Hypothesis 3 posits that the association between sexual minority status and risk behavior is moderated by adult identity, meaning that there should be interaction effects between sexual minority status and subjective age, as well as between sexual minority status and psychosocial maturity. No direction is specifically hypothesized; the association is simply expected to differ for sexual minority respondents compared to their sexual majority peers. Testing this hypothesis entails the inclusion of interaction terms in the original models and examining the significance of the original covariates and their interactions.
Results

(Insert Table 1 here)

Table 1 presents descriptive results of the present study’s analytic sample. The final sample consists of slightly more females (53.6 percent), has a mean age of 21.9, and is majority white (67.6 percent), moderately religious, and in the midst of receiving a college education. Binge drinking and any illegal drug use over the past year are fairly common among the sample; nearly half of all respondents report engaging in these behaviors. Still, binge drinking over the past year among respondents (49.6 percent) accounts for the majority of their substance use, while belonging to a gang was the most commonly reported item for criminality (15.2 percent). Suicidal ideation is decidedly rare (5.9 percent), and actual suicide attempts are rarer still (1.5 percent). Nearly double this amount (3.6 percent) report suicide attempts during adolescence. The respondents show moderate levels of financial independence (M = 3.6), although actual property ownership is rare (11.6 percent). Conversely, family development levels are relatively low (M = .9), with prior cohabitations (38 percent) accounting for most non-zero responses. Depression is generally low (M = 4.5), self-rated health is generally high (M = 3.0), and parental attachment is consistently high (M = 10.3), showing little variation. Most respondents report a moderately high subjective age (M = 5.4) and equivalent psychosocial maturity (M = 5.5), suggesting that they feel older than their peers but have the emotional and mental growth to set them on a normative developmental path.
Table 2 shows the means of several key variables stratified by sexual minority status, revealing several significant differences between sexual minority youths and their heterosexual peers. Sexual minority respondents report higher subjective ages, lower psychosocial maturity, lower parental attachment, greater depression, lower self-esteem, poorer health, greater exposure to violence, and greater levels of risk behavior. This disparity is most pronounced for suicidality, with levels for sexual minorities being almost triple that of heterosexual youths. Unexpectedly, sexual minority youths showed no significant differences in their completion of adult role transitions. The concurrent levels of financial independence suggest that exclusively heterosexual and sexual minority respondents fare equally well when it comes to personal autonomy.

Table 3 reports odds ratios for analyses of the hypothesis that adult identity will be associated with risk behavior (H1). Psychosocial maturity is negatively associated with substance use, criminality, and suicidality, with the most pronounced relationship occurring with the latter behavior (consistent with H1b). Financial independence exhibits negative effects of similar size for substance use and suicidality, while family development displays even stronger negative associations with these outcomes. Subjective age is not significantly associated with any of the risk behaviors (inconsistent with H1a). Exposure to violence, however, has strong and significant positive associations with risk behavior, particularly with criminality, although this fact stems
from both measures examining involvement in violent activities\(^5\). Interestingly, sexual minority status still shows a strong positive association with each outcome even after all covariates are included in the model, indicating that this measure may be functioning as a proxy for some omitted risk factor.

(Insert Table 4 here)

Table 4 reports odds ratios for analyses of the hypothesis that sexual minority status will be associated with adult identity (H2). Table 4 shows that sexual minority status has a significant positive association with subjective age and a negative association with psychosocial maturity (consistent with H2a and H2b). Adult role transitions have a considerable positive association with subjective age, and a more subtle but still significant positive association with psychosocial maturity.

(Insert Table 5 here)

Table 5 reports odds ratios for analyses of the hypothesis that associations between sexual minority status and risk behavior will be moderated by adult identity (H3). The third hypothesis is largely unsupported; the only significant interaction term was for the interaction between sexual minority status and psychosocial maturity in the revisited model for substance use.

(Insert Figure 2 here)

This interaction effect indicates that for sexual minority youths, the protective effect of psychosocial maturity on drug use is significantly lower than its effect for heterosexual youths. Figure 2 shows that, as psychosocial maturity increases for sexual

\(^5\) The two measures have a correlation of .24
majority young adults, substance use is expected to decline at a relatively steeper rate than it does for sexual minorities. While the strength of the psychosocial maturity effect on substance use also grows as psychosocial maturity increases for sexual minorities, the rate of increase is much flatter; psychosocial maturity is a decidedly less potent protective factor for this group, but is nevertheless significantly associated with reduced odds of substance use. Essentially, psychosocial maturity is still a valuable resource, but it is less effective in reducing the odds of substance use for sexual minority respondents. These null findings overwhelmingly suggest that the interplay between adult identity, adult role transitions, and risk behavior is more or less the same for sexual minority young adults and their heterosexual peers.
Discussion

The present study draws from emerging adulthood and minority stress theories to test the effects of subjective age and psychosocial maturity on the risk behavior of young adults. This study further tests the effects of sexual minority status on subjective age and psychosocial maturity. The results reveal the nontrivial role of adult identity in influencing risk behaviors among young adults, extending previous work that found associations between adult identity and mental health (Benson 2014). Furthermore, this study establishes linkages between sexual minority status and adult identity, showing the utility of integrating the minority stress hypothesis and emerging adulthood theory. The study’s three hypotheses are reviewed below.

Results show that the first hypothesis (H1), that adult identity is associated with risk behavior, is partially supported by the analyses. Psychosocial maturity is negatively associated with substance use, criminality, and suicidality. While psychosocial maturity has been shown to protect against depressive symptoms (Benson 2014), this study is among the first to explicitly connect psychosocial maturity to these risk outcomes. Psychosocial maturity’s protective influence endures even when controlling for related measures such as well-being (Diamond and Lucas 2004), indicating that psychosocial maturity captures some of the subjective qualities of adult identity posited by Arnett (2000). The hypothesis that subjective age would be positively associated with risk behavior (H1a) was not supported here; in none of the models was subjective age
significant, nor did it appear in the expected direction except in the model of suicidality. Conversely, financial independence and family development have protective effects against most risk behavior. The finding that sexual minorities and their exclusively heterosexual peers have equivalent values of financial independence and family development parallel those of Rabun and Oswald (2009), suggesting sexual minority young adults have similar normative values about adulthood. The protective effects of financial independence and family development are consistent with their conceptualization as “knifing-off points” in life course theory and speak to the power of material autonomy and strong social ties in promoting risk deterrence (Sampson and Laub 2003). Of interest are not only these significant effects, but null findings as well.

The lack of an effect for subjective age on any of these outcomes after controlling for adult transitions suggests that if the emerging adulthood theory is to be applied to risk behavior, psychosocial maturity might be the preferred measure for tapping into adult identity. Still, even if subjective age was unable to predict risk behavior in this study, finding a way to parse out or control the weathering component attributable to minority stress would help sharpen the current measure (Benson 2014). Future research might also benefit from examining both categorical combinations of adult identity measures (Benson and Elder 2011) as well as ordinal measures, as practiced here. Given that a higher subjective age is predictive of increased risk behavior in adolescence (Galambos et al. 1999), it is not inconsequential that sexual minority status is found to be positively associated with subjective age. Further inquiry will have to establish what the
consequences or benefits of subjective age are in young adulthood on other outcomes, for both the general population and groups experiencing minority stress.

The second hypothesis (H2), that sexual minority status will be associated with the two measures of adult identity, is borne out by the results. Specifically, sexual minorities seem to exhibit characteristics of the pseudoadult, whose high subjective age but low psychosocial maturity make them ill-equipped to proceed through the life course healthily (Benson and Elder 2011). This finding is novel in its inclusion of the emerging adulthood framework for analyzing risk behavior, while also extending the minority stress literature on sexual minorities by testing the prediction that minority group status would impact respondents’ self-perceptions of adult identity. Subjective age and psychosocial maturity are both found to be related to sexual minority status, but exhibit different effects on actual behavior. Further research on sexual minority young adults should include these measures of adult identity, as they may have some bearing on risk behaviors not analyzed here (e.g., irregular condom use or dating violence) or more healthful behaviors (e.g. routine medical visits or activist participation).

Arnett (2000) suggested that adult identity was fluid and that youths might phase in and out of emerging adulthood, but further research is needed to see whether an individual’s subjective age and psychosocial maturity wax and wane throughout the young adult years. Given their novelty, neither measure’s determinants are fully understood. For instance, some elements of adversity, such as depression, seem to stifle psychosocial maturity, while other factors like exposure to violence are positively associated with it, implying that it may be a resource cultivated reactively as well as a
vulnerable trait. The present study also shows that, compared to psychosocial maturity, subjective age is more heavily influenced by adult role transitions. Essentially, psychosocial maturity seems to capture the more abstract components of adult identity suggested by emerging adulthood theory while subjective age reflects the more concrete, socially recognized brand of adulthood outlined in the life course perspective (Nelson and Barry 2005). Thus, future studies should take care not to treat adult identity as a dichotomous concept, as it may too rigidly divide respondents into improper categories.

The third hypothesis (H3), that adult identity and adult role transitions would have differential effects on risk behavior varying by sexual minority status, was not supported by the analyses. The only significant interaction was between sexual minority status and psychosocial maturity on substance use, with the protective effect of this adult identity component being somewhat weaker for sexual minority young adults. Given the high incidence of substance use among this age group (Nelson and Barry 2005) and the particularly strong ties between sexual minority status and substance use (Goldbach et al. 2014), there may simply be a greater compound risk for sexual minority young adults that cannot be as strongly mitigated by individual coping resources as it can for their heterosexual peers. The preponderance of null findings in Table 5 is neither wholly surprising nor discouraging. These results simply bolster the findings of Jenkins and Vazsonyi (2013) that sexual minority and heterosexual psychosocial development in adulthood parallel one another, but begin at disparate starting points. Ultimately, this means that strategies designed to deter young adult risk behavior via promotion of adult identity development and adult role transitions should be effective for both sexual
majority and minority young adults. While the adolescence literature theorizes about the benefits of minority-specific strategies geared towards providing social support, such as online gay communities (Baams et al. 2011) and in-school gay-straight alliances (Fetner et al. 2012), the descriptive results here suggest that the struggles of the sexual minority young adult are not unique so much in their nature as they are unique in their severity. However, in each model of risk behavior the significant positive effect of sexual minority status remains after including all covariates, meaning that certain elements of the sexual minority experience are not being captured by the present models. Future work with more in-depth probes into sexual minority stress may be better suited to addressing its role in risk behavior.

Limitations

While this study makes use of national data, controls for a host of relevant characteristics, utilizes existing theoretical frameworks to inform its method, and simultaneously extends the emerging adulthood and minority stress literatures with its findings, it is not without limitations. Methodological complications may arise from treating both components of adult identity as ordinal outcomes in the second set of logistic regression analyses. If ‘less adult’ and ‘more adult’ are better considered as qualitatively different states rather than an ordered progression, then a multinomial logistic regression would be more appropriate. However, the variation in the distributions of psychosocial maturity and subjective age suggest that the gradated values have not been misapplied. For the outcome of suicidality, the skewness of responses may require a zero-inflated Poisson regression model. While a strength of the present study lies in its
use of national, longitudinal large-sample data, tapping into the more specific nuances of risk behavior trajectories is difficult with a closed-ended survey format. Even so, the finding that psychosocial maturity has potential explanatory power with regards to risk behavior is relatively novel and legitimizes further research into adult identity.

Parents may have an indirect relationship with adult identity through their positive influence on mental health, but were otherwise relatively inconsequential in the analyses, a finding at odds with prior research (Needham and Austin 2010); subsequent studies would benefit from more qualitative, in-depth interviews that allow sexual minority youths to attest to the helpful and harmful influences in their own lives. Drawing theoretical conclusions about the current relevance of emergent adulthood from this study alone is problematic; while I found that family development was just as if not more important than financial independence in my analyses, Wave III of Add Health was collected between 2001 and 2002. Although Arnett (2000) was theorizing about emergent adulthood around this time, the phenomenon may be less prominent as a national trend and more salient among certain subgroups. The current study does not consider the nuances of sex, race, region, or family type, all of which may reveal different narratives about the process of adulthood.

Another limitation of this study is a reliance on two time-points of collection spaced around 7 years apart. I do not attempt a more complex longitudinal analysis in this study, but future research could make good use of Add Health’s multiple waves to detect more subtle gradations in development and track Wave III respondents’ risk behaviors further into adulthood to more readily identify the factors behind desistence.
Unfortunately, the measures used here to tap into adult identity are not including during Wave IV, when respondents are ages 24 to 32. By the next planned wave of collection (2015-2018), all respondents will be in their 30’s and will be more likely to have a fully consolidated adult identity since the demographic instability of young adulthood is most prevalent in the 20’s (Arnett 2000). Gathering data over smaller intervals during this decade of the life course would be particularly illuminating. Although the present study is limited in its ability to speak of causality, work focusing on sexual minority status can presume its temporal precedence and proceed to identify the resultant stressors. There is little doubt that risk behavior and adult identity shape and act upon one another, but this study makes clear that mental maturity is associated with a reduced likelihood of negative outcomes.

**Conclusion**

Overall, these findings strengthen the case for taking adult identity into consideration as a key factor in understanding and deterring substance use, criminality, and suicidality in young adult populations. Other outcomes, from additional risk behaviors (e.g. risky sexual practices and eating disorders) to more varied features of adult life (e.g. job stability and relationship satisfaction) warrant scholarly attention and could make use of this study’s model as a foundation for analysis. Given that adult identity’s relationship with risk behavior is relatively equivalent for sexual minority youths and their non-minority peers, the model may be of use for research outside the minority stress literature as well. Future sociological research, however, should recognize that gains in subjective age reflect weathering rather than genuine growth for minority
groups; this deficit in emotional and cognitive maturation, rather than a separate set of risk factors, helps to explain their higher rates of risk behavior. While substance use is more common among this age population generally, the comparative rates of criminality and suicidality are more noticeably affected by sexual minority status. The findings that sexual minority status is negatively associated with psychosocial maturity, which itself is associated with reduced risk behavior, indicate that sexual minority young adults are a more vulnerable population requiring resources that can strengthen protective characteristics. However, the evidence here supports the notion that institutions dedicated to curbing risk behavior do not necessarily require alternative versions solely targeting sexual minority populations (Gastic and Johnson 2009; Fetner et al. 2012). Instead, existing resources dealing either specifically with risk behavior (e.g. substance abuse counseling) or with adult role transitions (e.g. financial advising) should be viable options for sexual minority young adults as deterrent measures. However, it must be stressed that such services should be developed and offered outside campus communities since young adults’ educational pursuits are varied. Furthermore, future research should consider evaluating the effect of participation in these services on adult identity to better get at the causal nature of its association with risk behavior. The policy implications of the present study are that psychosocial maturity offers a possible means of defense against hazardous outcomes for young adults, but which outcomes, at what ages, and through what concrete steps is not yet entirely clear and warrants more investigation. The research presented here shows that at least some groups affected by minority stress stand to gain much from further inquiry by understanding the elements of a healthy and happy adulthood.
References


Lewinsohn, Peter M., Paul Rohde, John R. Seeley, and Carol L. Baldwin. 2001. “Gender Differences in Suicide Attempts From Adolescence to Young Adulthood.”


Appendix: Tables and Figures

Figure 1.
Conceptual model of adult identity moderating link between sexual minority status and risk behavior

Conceptual Framework

Subjective Age

Sexual Minority Status

Psychosocial Maturity

Risk Behavior (Substance Use, Delinquency, Suicidality)
<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>%M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance Use</td>
<td>0-3</td>
<td>1.36</td>
<td>1.205</td>
</tr>
<tr>
<td>Criminality</td>
<td>0-1</td>
<td>39.92%</td>
<td>0.49</td>
</tr>
<tr>
<td>Suicidality</td>
<td>0-2</td>
<td>0.07</td>
<td>0.312</td>
</tr>
<tr>
<td>Sexual Minority Status</td>
<td>0-1</td>
<td>12.39%</td>
<td>0.33</td>
</tr>
<tr>
<td>Subjective Age</td>
<td>0-8</td>
<td>5.43</td>
<td>2.135</td>
</tr>
<tr>
<td>Psychosocial Maturity</td>
<td>0-8</td>
<td>5.55</td>
<td>1.655</td>
</tr>
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<td>Parental Attachment</td>
<td>0-12</td>
<td>10.32</td>
<td>1.866</td>
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<tr>
<td>Financial Independence</td>
<td>0-7</td>
<td>3.57</td>
<td>1.590</td>
</tr>
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<td>Family Development</td>
<td>0-4</td>
<td>0.89</td>
<td>1.135</td>
</tr>
<tr>
<td>Depression</td>
<td>0-26</td>
<td>4.46</td>
<td>3.937</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>0-16</td>
<td>12.91</td>
<td>2.241</td>
</tr>
<tr>
<td>Health</td>
<td>0-4</td>
<td>3.03</td>
<td>0.854</td>
</tr>
<tr>
<td>Exposure to Violence</td>
<td>0-1</td>
<td>9.73%</td>
<td>0.696</td>
</tr>
<tr>
<td>Female</td>
<td>0-1</td>
<td>53.61%</td>
<td>0.499</td>
</tr>
<tr>
<td>Age</td>
<td>18-28</td>
<td>21.86</td>
<td>1.74</td>
</tr>
<tr>
<td>White</td>
<td>0-1</td>
<td>67.56%</td>
<td>0.468</td>
</tr>
<tr>
<td>Black</td>
<td>0-1</td>
<td>19.9%</td>
<td>0.399</td>
</tr>
<tr>
<td>Other</td>
<td>0-1</td>
<td>12.54%</td>
<td>0.331</td>
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<tr>
<td>Family Structure</td>
<td>0-1</td>
<td>55.40%</td>
<td>0.497</td>
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<tr>
<td>Religiosity</td>
<td>0-3</td>
<td>1.49</td>
<td>0.852</td>
</tr>
<tr>
<td>Education</td>
<td>0-2</td>
<td>1.47</td>
<td>0.682</td>
</tr>
<tr>
<td>Past Suicide Exposure</td>
<td>0-4</td>
<td>0.25</td>
<td>0.572</td>
</tr>
<tr>
<td>Past Social Attachment</td>
<td>0-38</td>
<td>26.12</td>
<td>6.159</td>
</tr>
<tr>
<td>Pubertal Development</td>
<td>0-4</td>
<td>2.21</td>
<td>1.109</td>
</tr>
<tr>
<td>Past Romantic Relationship</td>
<td>0-1</td>
<td>61.21%</td>
<td>0.487</td>
</tr>
<tr>
<td>Past Pregnancy</td>
<td>0-1</td>
<td>6.00%</td>
<td>0.237</td>
</tr>
<tr>
<td>Past Suicidal Thoughts</td>
<td>0-1</td>
<td>3.03%</td>
<td>0.854</td>
</tr>
<tr>
<td>Past Suicide Attempts</td>
<td>0-1</td>
<td>9.73%</td>
<td>0.696</td>
</tr>
<tr>
<td>Past Delinquency</td>
<td>0-1</td>
<td>78.77%</td>
<td>0.409</td>
</tr>
<tr>
<td>Past Binge Drinking</td>
<td>0-1</td>
<td>24.99%</td>
<td>0.433</td>
</tr>
<tr>
<td>Past Drug Use</td>
<td>0-1</td>
<td>28.79%</td>
<td>0.433</td>
</tr>
</tbody>
</table>
### Table 2
**Comparison of Means by Sexual Minority Status**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Exclusively Heterosexual ($n=9987$)</th>
<th>Sexual Minority ($n=1413$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance Abuse</td>
<td>1.306</td>
<td>1.747*</td>
</tr>
<tr>
<td>Criminality</td>
<td>0.392</td>
<td>0.452*</td>
</tr>
<tr>
<td>Suicidality</td>
<td>0.06</td>
<td>0.169*</td>
</tr>
<tr>
<td>Subjective Age</td>
<td>9.364</td>
<td>9.675*</td>
</tr>
<tr>
<td>Psychosocial Maturity</td>
<td>9.597</td>
<td>9.192*</td>
</tr>
<tr>
<td>Parental Attachment</td>
<td>10.387</td>
<td>9.855*</td>
</tr>
<tr>
<td>Financial Independence</td>
<td>3.570</td>
<td>3.544</td>
</tr>
<tr>
<td>Family Development</td>
<td>0.888</td>
<td>0.932</td>
</tr>
<tr>
<td>Depression</td>
<td>4.246</td>
<td>6.004*</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>12.996</td>
<td>12.285*</td>
</tr>
<tr>
<td>Health</td>
<td>3.055</td>
<td>2.815*</td>
</tr>
<tr>
<td>Exposure to Violence</td>
<td>0.094</td>
<td>0.117*</td>
</tr>
<tr>
<td>Female</td>
<td>0.512</td>
<td>0.708*</td>
</tr>
<tr>
<td>Age</td>
<td>21.868</td>
<td>21.791</td>
</tr>
<tr>
<td>White</td>
<td>0.669</td>
<td>0.722*</td>
</tr>
<tr>
<td>Black</td>
<td>0.202</td>
<td>0.175*</td>
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<tr>
<td>Other</td>
<td>0.128</td>
<td>0.103*</td>
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<tr>
<td>Family Structure</td>
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<tr>
<td>Religiosity</td>
<td>1.514</td>
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<tr>
<td>Education</td>
<td>1.475</td>
<td>1.441*</td>
</tr>
<tr>
<td>Past Suicide Exposure</td>
<td>0.235</td>
<td>0.39*</td>
</tr>
<tr>
<td>Past Social Attachment</td>
<td>26.272</td>
<td>25.075*</td>
</tr>
<tr>
<td>Pubertal Development</td>
<td>2.2</td>
<td>2.279*</td>
</tr>
<tr>
<td>Past Romantic Relationship</td>
<td>0.606</td>
<td>0.655*</td>
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<tr>
<td>Past Pregnancy</td>
<td>0.060</td>
<td>0.057</td>
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<td>Past Suicidal Thoughts</td>
<td>0.118</td>
<td>0.222*</td>
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<tr>
<td>Past Suicide Attempts</td>
<td>0.031</td>
<td>0.072*</td>
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<td>Past Binge Drinking</td>
<td>0.246</td>
<td>0.277*</td>
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<tr>
<td>Past Drug Use</td>
<td>0.276</td>
<td>0.369*</td>
</tr>
</tbody>
</table>
### Table 3

**Risk Behavior: Odds Ratios with Robust Standard Errors from Logistic and Ordinal Regression Models**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Substance Use</th>
<th>Criminality</th>
<th>Suicidality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychosocial Maturity</td>
<td>0.961** (.01)</td>
<td>0.968* (.01)</td>
<td>0.903*** (.03)</td>
</tr>
<tr>
<td>Subjective Age</td>
<td>0.988 (.01)</td>
<td>0.991 (.01)</td>
<td>1.039 (.02)</td>
</tr>
<tr>
<td>Sexual Minority Status</td>
<td>1.786*** (.11)</td>
<td>1.307*** (.08)</td>
<td>1.9*** (.2)</td>
</tr>
<tr>
<td>Financial Independence</td>
<td>0.967** (.01)</td>
<td>0.978 (.01)</td>
<td>0.942* (.03)</td>
</tr>
<tr>
<td>Family Development</td>
<td>0.835*** (.01)</td>
<td>0.976*** (.02)</td>
<td>0.849*** (.04)</td>
</tr>
<tr>
<td>Parental Attachment</td>
<td>0.991 (.02)</td>
<td>0.982 (.02)</td>
<td>0.956 (.03)</td>
</tr>
<tr>
<td>Depression</td>
<td>1.028*** (.01)</td>
<td>1.034*** (.01)</td>
<td>1.152*** (.01)</td>
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<tr>
<td>Self-Esteem</td>
<td>0.985 (.01)</td>
<td>1.003 (.01)</td>
<td>0.862*** (.02)</td>
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<td>Health</td>
<td>0.879*** (.02)</td>
<td>0.910*** (.02)</td>
<td>0.914 (.05)</td>
</tr>
<tr>
<td>Exposure to Violence</td>
<td>2.225*** (.14)</td>
<td>4.013*** (.30)</td>
<td>1.716*** (.22)</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01  ***p < .001  
(n = 11,400)  
*control variables included in model but not shown

### Table 4

**Adult Identity: Odds Ratios with Robust Standard Errors from Ordinal Logistic Regression Models**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Subjective Age</th>
<th>Psychosocial Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual Minority Status</td>
<td>1.148** (.06)</td>
<td>0.848** (.04)</td>
</tr>
<tr>
<td>Financial Independence</td>
<td>1.186* (.01)</td>
<td>1.085*** (.01)</td>
</tr>
<tr>
<td>Family Development</td>
<td>1.36*** (.02)</td>
<td>1.081*** (.02)</td>
</tr>
<tr>
<td>Parental Attachment</td>
<td>0.972** (.01)</td>
<td>1.013 (.01)</td>
</tr>
<tr>
<td>Depression</td>
<td>1.022*** (.00)</td>
<td>0.938*** (.01)</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>1.105*** (.01)</td>
<td>1.313*** (.01)</td>
</tr>
<tr>
<td>Health</td>
<td>0.993 (.02)</td>
<td>1.171*** (.03)</td>
</tr>
<tr>
<td>Exposure to Violence</td>
<td>1.135*** (.08)</td>
<td>1.160** (.07)</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01  ***p < .001  
(n = 11,400)  
*control variables included in model but not shown
Table 5
Investigating Interaction Effects with Sexual Minority Status

<table>
<thead>
<tr>
<th>Variable</th>
<th>Substance Use</th>
<th>Criminality</th>
<th>Suicidality</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMS</td>
<td>0.806</td>
<td>1.976</td>
<td>2.765</td>
</tr>
<tr>
<td>Psychosocial Maturity (PM)</td>
<td>0.948***</td>
<td>0.969*</td>
<td>0.903**</td>
</tr>
<tr>
<td>SMS*PM</td>
<td>1.109**</td>
<td>0.997</td>
<td>1.005</td>
</tr>
<tr>
<td>Subjective Age (SA)</td>
<td>0.990</td>
<td>0.996</td>
<td>1.049</td>
</tr>
<tr>
<td>SMS*SA</td>
<td>0.983</td>
<td>0.960</td>
<td>0.958</td>
</tr>
</tbody>
</table>

*p < .05    **p < .01    ***p < .001
(n=11,400)

Control variables included in model but not shown

Figure 2
Adjusted Linear Effects on Substance Use for Selected Values of Psychosocial Maturity and Sexual Minority Status