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Are Gay Men in Worse Mental Health than Heterosexual Men? The Role of Age, Shame and Guilt, and Coming-Out

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Abstract Previous studies reporting that gay individuals are in worse mental health than heterosexuals have typically employed young or mixed-age samples, ignoring the role of age. Mental health problems may show greater age-related improvement among gay than heterosexual men as indicated by the findings of the present study. In this study, the following indices of mental health are examined, and found to be comparable, among 86 heterosexual and 81 gay men aged 18–48: depression, suicidality, anger, anxiety, negative self-esteem, emotional instability, and lack of emotional responsiveness. Most indices show age-related effects among gay men, with less severe symptoms reported by older individuals. Among heterosexual men, effects of age are less widespread, although older men do report fewer symptoms of anger. Chronic shame and chronic guilt are related to mental health problems and a lessening in shame accounted, in part, for the age-related decline in depression among gay men. Different approaches to disclosing/concealing sexual identity are also linked with shame, guilt, and mental health among gay men.

Keywords Men · Mental health · Adult development · Guilt · Shame

Gay, compared to heterosexual, men and women have a greater lifetime incidence of anxiety disorders, mood disorders, and substance-use disorders according to a meta-analysis by Meyer (2003). Gay individuals report higher levels of anxiety, depression, and hopelessness (Fergusson et al. 1999; Lock and Steiner 1999; Safren and Heimberg 1999). Gay compared to heterosexual individuals are also more likely to attempt suicide and to incur serious injuries from such attempts (Bagley and Tremblay 2000; Fergusson et al. 1999; French et al. 1998; Safren and Heimberg 1999).

Although studies seem, overwhelmingly, to report greater mental health problems among gay compared with heterosexual men, many rely on adolescent and college-aged participants (e.g., Bagley and Tremblay 2000; Faulkner and Cranston 1998; Fergusson et al. 1999; French et al. 1998; Morris et al. 2001; Safren and Heimberg 1999). Numerous studies of mental disorder among adults, indeed the majority of those included in a meta-analysis by Meyer (2003), examine lifetime incidence, and hence do not fix the time of the disorder. Reported disorders may have occurred years earlier, possibly even during adolescence or early young adulthood rather than later in adulthood. Other studies that examine one-year incidence of disorders (or recent symptoms) combine adolescents, young adults, and middle-aged adults together in the same sample without taking age into account (see review by Meyer 2003). This leaves open the possibility that inclusion of adolescents and college students in the adult samples increases the magnitude of differences related to sexual orientation (or even accounts for observed differences altogether).

This study represents a unique look at mental health in gay and heterosexual men from a developmental perspective. Gay and heterosexual men are compared at two age levels, early young adulthood (ages 18–24) and later young adulthood to mid-life (25–48). In addition, age-related changes in mental health, shame, and guilt are examined among gay and heterosexual men during and across each time period using a cross-sectional design. Problems in mental health are expected to diminish with adult

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development. Chronic shame and guilt underlie mental health problems among heterosexual individuals (Quiles and Bybee 1997) and bear examination among gay individuals as well. In this study, a lessening of these potentially harmful feelings with development is expected to account, in part, for the expected age-related decline in mental health problems. Different approaches to disclosing/concealing sexual identity are examined in relation to age, chronic shame and guilt, and mental health among gay men.

An all-male sample is utilized because men are at elevated risk for many of the mental health problems examined in this study such as suicidality, anxiety, and hostility. These are serious mental health issues that contribute to elevations in men's mortality rates. In 2002, for example, 80% of all the suicides in the United States involved men, half of whom were aged below 45 (Miniño et al. 2006). Gay compared to heterosexual men are more than twice as likely to attempt suicide and are also at greater risk for anxiety disorders: The relationship of sexual orientation to these variables is not so clear among women (Meyer 2003). Men are also more violence-prone than females throughout the life-span (Mash and Wolfe 2002). As men are at particular risk for suicide and hostility (Mash and Wolfe 2002; Meyer 2003), measures used for tapping these types of symptoms are included. In addition, indices of mental health, such as emotional instability and emotional unresponsiveness, that received less attention in previous studies are included as they may change in response to maturation and evolution of better coping skills.

Why Does Age Matter?

Savin-Williams (2006) notes that reaching conclusions about gay individuals' mental health on the basis of research done with adolescents poses a problem for the following reasons. When researchers utilize adolescent (and even early young adult) samples and then define sexual orientation on the basis of behavior alone, as opposed to gay identity and feelings, individuals who engage in same-sex sexual intercourse at an early age are likely to be overrepresented. Individuals who delay first intercourse until they are more mature are excluded from study even when they possess a gay identity and are attracted to same-sex partners. The net effect is that studies of adolescents may include a high number of teens in the gay group who engage in early sexual behavior (and hence, are more likely to have multiple partners during their teenage years). High risk sexual behavior is related to poor mental health in a number of studies reviewed by Savin-Williams. Risky sexual practices (and use of an anomalous group of promiscuous teens), rather than sexual orientation per se, may account for findings that gay adolescents are in poor mental health. Extrapolating conclusions beyond adolescence (or mixing adolescent with adult samples) further compounds the problem.

Age also matters because adolescence and early young adulthood can be a tumultuous and distressing time. The teenage years are generally a period of identity confusion and turmoil (Erikson 1968). For individuals unsure of, or coming to terms with, their sexual identity, adolescence may be even more challenging. Sadly, 46% of gay youth report having lost a friend as a result of disclosing their sexual orientation (Marsiglio 1993). Gay youth may realistically fear the consequences of disclosing their sexual identity to others. Those who fear to do so, however, may deprive themselves of potential sources of support as individuals who have come out to others experience more positive mental health (e.g., Morris et al. 2001; Rosario et al. 2001). Moving past this stressful early period may lead to a reduction in mental health symptoms for men in general and effects of age might be expected to be particularly pronounced among gay men.

Even after adolescence, mental health problems may be sensitive to effects of age. Landa and Bybee (2007) point to adaptive elements of aging: with maturation during adulthood, parental expectations may recede in importance, self-esteem rises, and self-acceptance appears to increase. These researchers report a lessening in eating-related pathology among women at high risk for eating disorders after the college years. So, also, might mental health problems among men recede with adult development. Effects of age might be particularly pronounced among gay men as concern with parental and societal approbation lessens, and they come to terms with their sexual identity.

Concealment, Chronic Shame, and Chronic Guilt

In addition to age, another novel aspect of this study is that individual difference variables that may underlie mental health are examined. Meyer (2003) identifies concealment of sexual identity as one of the primary reasons why gay individuals may experience mental health problems. Individuals may hide their sexual identity out of shame and guilt or because they fear they will be stigmatized, ostracized, disowned, fired from a job, or even physically attacked (Meyer 2003). The inner experience of concealment, however, can become a "private hell" (Major and Gramzow 1999). Concealment serves to cut off channels of support from gay or sympathetic supporters. Attendant lies, cover-ups, and hiding secrets can lead to harmful, ongoing feelings of guilt and shame, serving to further undercut mental well-being.

The emotion of shame draws attention to real or imagined deficiencies of the self. Shame is experienced as a stinging, hot feeling that leads the experiencing individual to feel flushed, small, as if they are shrinking into the floor (Harder and Zalma 1990; Tangney 1998). Action tendencies associated with the emotion include hiding one's face, turning away, avoiding the situation as if to prevent detection, and striking back (Ferguson and Stegge 1995; Tangney 1998). Shame, then, is intricately tied with attempts to conceal and with retaliation. The destructive nature of shame has long been recognized. Greater feelings of shame are linked with suicide, drug and alcohol abuse, and depression (see review by Harder 1995). Common shame-evoking situations include: real or anticipated parental approbation, concern with others' negative evaluation, embarrassments, being belittled, and breaking social norms (Haggarty and Bybee 2004b; Tangney 1992), eliciting events that might be more salient to gay than heterosexual individuals. Among gay men, shame is elevated among those who see themselves breaching social norms surrounding masculinity, the male sex role stereotype, and normative sexual behavior (Allen and Oleson 1999).

Guilt, compared to shame, draws attention to the specific lapse, engenders concern for the victim, and is accompanied by feelings of regret and remorse (Ferguson and Stegge 1995; Tangney 1998). The emotion, when short-lived and tied to specific, remediable events, gives rise to reconciliatory behavior (such as confession, apology, attempts to redress injury, and reparation), prosocial acts, and goal-oriented behavior (Bybee et al. 1998; Quiles and Bybee 1997). When the precipitating event is insoluable or ongoing, however, guilt may become chronic. It is chronic guilt that is of interest in this study as it is the form of guilt associated with mental health problems (Bybee and Quiles 1998; Ferguson et al. 1999; Haggarty and Bybee 2004a; Quiles and Bybee 1997). Sources of chronic guilt may include being betrayed or betraying others, ongoing problems in maintaining intimate relationships, and hurting relationship partners (Jones et al. 1995; Kugler and Jones 1992). Harmful chronic guilt might result among gay men if disclosure of gay identity resulted in a betrayal or severing of a relationship or if their family members are ashamed, disappointed, or emotionally hurt by revelations of sexual identity. Further, as dishonesty is one of the most common sources of guilt (Haggarty and Bybee 2004b; Tangney 1992; Williams and Bybee 1994), individuals who habitually conceal their sexual orientation might be expected to experience more chronic guilt.

Both shame and guilt may be interwoven with concealment of gay identity. Shame and guilt may prevent gay individuals from disclosing their sexual orientation. Conversely, concealment with attendant dishonesty may fuel malignant, lingering feelings of guilt and shame. Fears of social stigmatization and even physical violence from disclosure of sexual identity might further fuel this cycle. The forms of disclosure and coming out examined in this study originate in Cass' (1979) six-stage model of homosexual identity formation. The stage model assumes growth or development from one stage to the next, progressing from identity confusion through a series of stages toward identity synthesis. Building upon this framework, Brady and Busse (1994) developed a measure that assigns gay individuals to stages similar to those conceptualized by Cass. They report no age-related changes in stages, however.

Rather than conceptualizing coming out as progress along a continuum of gay identity stages, subscales operationalized by Brady and Busse are here reconceptualized as coping responses and relabeled in terms of the core features that they appear to instantiate. These include (in the same order as the hypothesized stages): Not Out and Confused; Not Out and Upset; Not Out, Not Self-Accepting; Partially Out; Out, Proud, but Angry; and Out and Integrated. Rather than being assigned to a single "stage" as in the Brady and Busse study, individuals in this investigation receive a score for each subscale.

Method

Participants

Participants were 86 heterosexual men and 81 gay men. Ages of the heterosexual men ranged from 18 to 48, with 49 men aged 24 and below, $M = 20.37$, $SD = 1.91$, and 37 men aged 25 and above, $M = 33.19$, $SD = 6.85$. Turning to the gay men, ages ranged from 18 to 46, 30 men were aged 24 and below, $M = 21.67$, $SD = 1.81$, and 51 men were 25 and above, $M = 32.27$, SD = 5.11. Gay men were recruited from college-based gay student organizations, psychology classes, a gay men's gym, and a major airline as well as through relatives, acquaintances, and coworkers who were students in psychology courses. In order to be classified as gay, men recruited from these sources had to check, "true," for at least one of three validity check items from the Gay Identity Questionnaire (Brady and Busse 1994). These included having, "thoughts," "feelings," and/or, "sexual behaviors" that they would label as "homosexual." Heterosexual men were recruited from psychology classes and night classes, and through relatives, acquaintances, and coworkers who were students in psychology courses. Men were excluded from this group if they checked an item indicating that they had had, or planned to have, sex with another man. (The exclusion criterion led to the loss of 12 possible participants, six who

were initially identified as possible gay participants, six who were initially identified as possible heterosexual participants: these 12 excluded men were not used in any of the counts). The procedure used in this study did not make it possible to ascertain acceptance rates.

Out of the heterosexual men in the sample, self-report information indicated there were 69 White, 9 Black, 11 Hispanic, 5 Asian, and 2 "other" participants. Corresponding numbers, in respective order, were 63, 8, 5, 2, and 3 for the gay men. Most participants were: in college or night school (ns = 54 and 22) (ns are presented, in order, for heterosexual and gay men throughout), held a college degree with no further graduate training (ns = 10 and 20), had post-graduate training (ns = 9 and 5), or held an advanced degree (ns = 7 and 8). A handful never attended college (ns = 1 and 5) or started but did not complete college (ns = 5 and 5).

Occupation was assigned a status rating from 2 (lowest status) to 9 (highest status) using the Hollingshead (Hollingshead, 1975, Four-factor index of social status, unpublished manuscript) scale. Out of the heterosexual men not currently taking college courses, 10 held professional positions (status score was 9), 5 held minor professional positions (status score was 8), and 3, 4, 1, 5, 1, and 1 held positions scored, in descending order of occupational status, as 7 through 2. Two participants neglected to report their occupation. Out of the 59 gay men not currently taking college courses, 27 were flight attendants (occupational status score of 4). Among remaining participants, 8 held professional positions, 6 held minor professional positions, and 4, 3, 2, 1, 3, and 5 held positions scored, in descending status order, as 7-2 on the Hollingshead scale.

Measures of Mental Health

The *Personality Adjustment Questionnaire* (PAQ) (Rohner 1990; Khaleque and Rohner 2002) contained three subscales used in this study: Negative Self-Esteem (e.g., "*I feel inferior to others in most respects*"), Emotional Unresponsiveness (e.g., I have trouble expressing my true feelings), and Emotional Instability (e.g., I am cheery and happy one minute and gloomy or discontent the next). Participants rated the nine items contained on each subscale from 4 (*almost always true of me)* to 1 (*almost never true of me)*. Higher scores indicated greater pathology. Cronbach's alpha, for the negative self-esteem, emotional unresponsiveness, and emotional instability subscales, in order, were .88, .80, and .79 for the heterosexual men and .87, .78, and .82 for the gay men.

The *Beck Depression Inventory* (BDI) (Beck 1972), a widely used 21-item measure with documented evidence of good reliability and validity, was used. Higher scores indicated greater pathology. The suicide item was analyzed as a part of the BDI and also separately. In this study sample, Cronbach's alpha for the total inventory was .83 for heterosexual and .88 for gay participants.

The *NEO-Personality-Revised* (NEO-PI-R; Costa and McCrae 1992a, b), a widely used measure of personality with well-established reliability and validity, was used. The four subscales from the neuroticism scale with the clearest link to mental health were used: anxiety ("I often feel tense and jittery"), depression ("I am seldom sad or depressed" [reverse-scored]), anger ("I am known as hot-blooded and quick tempered"), and negative self-esteem ("I have a low opinion of myself"). Each subscale contained eight items. Each item was scored using a 5-point scale from *strongly disagree*, to *strongly agree*. Items were scored such that larger scores indicated greater anxiety, depression, anger, and negative self-esteem. In this study, Cronbach's alphas for the subscales, in order, were .74, .83, .79, and .64 for heterosexual men and .79, .83, .82 and .69 for gay men.

Guilt and Shame Measures

The *Guilt Inventory* (GI) (Jones et al. 1995; Kugler and Jones 1992), a measure with good external validity, contained 20 items that assessed how guilty the individual generally or typically feels, or feels about an enduring event. Sample items included: "There is something in my past I deeply regret," and, "Guilt and remorse have been a part of my life for as long as I can remember." Participants rated each item on a scale from 1 (*very untrue of me or strongly disagree*) to 5 (*very true of me or strongly agree*). Test–retest reliability, as reported by Kugler and Jones (1992), was .72 over a 10-week period and Cronbach's alpha was .89. In this study, Cronbach's alpha was .89 for heterosexual men and .89 for gay men.

The *Personal Feelings Questionnaire-2* (PFQ-2) (Harder and Zalma 1990) contained guilt and shame subscales with good external validity. Participants rated how common each feeling was on a scale from 0 (*never experience the feeling*) to 4 (*experience the feeling continuously or almost continuously*). The six guilt items were: mild guilt, worry about hurting or injuring someone, intense guilt, regret, feeling you deserve criticism for what you did, and remorse. The 10 shame items were: feeling self-conscious, as if blushing, embarrassed, ridiculous, humiliated, stupid, childish, helpless/paralyzed, laughable, disgusting to others. For the guilt and shame subscales, in order as reported by Harder and Zalma (1990), test–retest reliability was .72 and .78 and Cronbach's alpha was .72 and .78. In this study, Cronbach's alpha for the guilt and shame subscales, in order, was .71 and .75 for heterosexual men and .54 and .70 for gay men.

The *Gay Identity Questionnaire* (GIQ) (Brady and Busse 1994), given only to gay participants contained

three validity check items for sexual orientation (see "Participants" section) and six subscales. The subscales were originally conceptualized by the authors as stages to which individuals might be assigned. In this study, subscales were relabeled as responses to coming out and individuals received scores for each subscale. Each subscale was comprised of 7 true–false items. The first subscale, termed, "Not Out and Confused" in this study, contained items that assessed secrecy (e.g., "I cannot imagine sharing my homosexual feelings with anyone") and confusion over identity (e.g., "I don't act like most homosexuals do, so I doubt that I'm homosexual"). The second, termed, "Not Out and Upset," contained items that assessed uncertainty and hiding sexual identity (e.g., "I have disclosed to one or two people [very few] that I have homosexual feelings, although I'm not sure I'm homosexual"), and feeling upset (e.g., "I dread having to deal with the fact that I may be homosexual"). The third, termed, "Not Out, not Self-Accepting," assessed worrying about disclosing sexual identity and not being fully accepting of one's sexual orientation ("I don't mind if homosexuals know that I have homosexual thoughts and feelings, but I don't want any others to know"). The fourth, "Partially Out," assessed disclosing sexual identity only to certain groups of people such as other homosexuals while keeping identity a secret to other people such as others at work or family members (e.g., "I live a homosexual lifestyle at home, while at work/school I do not want others to know about my lifestyle"). The fifth, "Out, Proud, but Angry," assessed behavior that involved being fully out but angry at society (e.g., "I frequently express to others anger over heterosexuals' oppression of me and other gays"). The sixth, "Out and Integrated," tapped being fully out and integrated into the community (e.g., "I am openly gay and fully integrated into the heterosexual community"). Cronbach's alphas, in order, for these subscales, were: .66, .84, .67, .80, .65, and .77.

Procedure

Participants completed informed consent forms and then, in order, the PFQ-2 shame and guilt measure, the NEO-PI-R subscales, the GI, the PAQ, and the BDI. The guilt measures were separated by the NEO-PI-R subscales to reduce pressures toward uniform responsiveness across subscales. The NEO-PI-R and the PAQ were separated for similar reasons. The measures assessing symptoms of psychopathology were ordered such that inventories containing more severe symptoms of pathology came progressively later. The GIQ, given only to gay men, came last so that the testing procedure up to that measure would be identical for gay and heterosexual men.

Results

Overview

The first set of analyses compared gay and heterosexual men on measures of mental health, guilt, and shame. The next set of analyses examined the effects of age on mental health, guilt, and shame separately for heterosexual and gay men. Next, relationships of shame and guilt to mental health were examined separately for heterosexual and gay men. Analyses were then run to determine whether the age-related decline in mental health problems among gay men was mediated by a decline in shame. Among gay men only, the relationship of coming out to age and to measures of shame, guilt, and mental health was examined.

(Given the relatively large number of gay flight attendants, all of whom were in the older age group, preliminary analyses were run to ensure that they did not differ significantly from other gay men in their age cohort group. ANOVAs indicated there were generally no differences [although flight attendants were less anxious $F[1, 49] = 4.97$, $p = .05$, and less suicidal $F[1, 48] = 6.57$, $p = .05$, than their peers]. Removing this group from the older age group did not alter the basic pattern of findings, although significance fell due to the loss of power. This individual difference variable was not further examined.)

Comparison of Heterosexual and Gay Men on Measures of Mental Health, Chronic Shame, and Chronic Guilt

A series of ANOVAs were run with sexual orientation as the independent variable and measures of mental health as the dependent variables. Gay compared to heterosexual men had marginally fewer problems with lack of emotional responsiveness (Table 1). No other effects of sexual orientation were significant. ANOVAs with sexual orientation as the independent variable, and chronic shame and chronic guilt as dependent variables produced no significant effects (Table 1). (All analyses were rerun controlling for age in a series of ANCOVAs with sexual orientation as the independent variable, and age as the covariate. In no case, was there a significant or marginal difference between gay and heterosexual men on any index of mental health, chronic shame, or chronic guilt. In addition, when analyses of sexual orientation were rerun at the younger and older age levels, no more differences than expected by chance emerged.)

Relationship of Age to Mental Health, Chronic Shame, and Chronic Guilt

ANOVAs indicated that differences across age group in mental health, shame and guilt were not significant for

Table 1 Comparison of heterosexual and gay men on measures of mental health, chronic shame, and chronic guilt

Measures	Sexual orientation		*F*
	Heterosexual *M* (*SD*)	Gay *M* (*SD*)	
BDI			
Depression	7.3 (6.8)	7.4 (7.6)	.00
Suicidality	.17 (.54)	.20 (.52)	.12
NEO-PI-R			
Anxiety	15.9 (5.0)	16.4 (5.5)	.39
Depression	13.3 (6.1)	14.4 (6.3)	1.26
Anger	15.0 (5.8)	14.7 (6.1)	.07
Negative self-esteem	15.3 (4.7)	15.1 (5.0)	.07
PAQ			
Negative self-esteem	15.2 (4.9)	15.2 (4.9)	.01
Emotional instability	19.3 (4.4)	19.3 (4.5)	.00
Emotional unresponsiveness	18.9 (4.7)	17.6 (4.5)	3.59*
PFQ-2			
Shame	20.4 (4.1)	20.1 (3.7)	.20
Guilt	12.2 (2.9)	11.8 (2.1)	.96
GI guilt	56.2 (13.1)	55.6 (12.4)	.09

Note: *BDI* Beck Depression Inventory, *NEO-PI-R* NEO-Personality Inventory-Revised, *PAQ* Personal Adjustment Questionnaire, *PFQ-2* Personal Feelings Questionnaire-2, *GI* Guilt Inventory. Higher scores indicate more symptoms. BDI depression scores may range from 0 to 21, BDI suicide item may range from 0 to 1, NEO-PI-R subscales may range from 8 to 40, PAQ scores may range from 9 to 36, PFQ-2 subscales may range from 0 to 24 for guilt and 0 to 40 for shame, and GI guilt scores may range from 20 to 100

* $p < .06$

Table 2 Relationship of age to mental health, chronic shame, and chronic guilt for gay men ages 24 and younger

Measures	Age $\leq$ 24 *M* (*SD*)	Age $\geq$ 25 *M* (*SD*)	*F*
BDI			
Depression	10.17 (9.67)	5.82 (5.60)	6.51**
Suicidality	.38 (0.73)	.10 (.30)	5.71*
NEO-PI-R			
Anxiety	17.20 (5.83)	15.88 (5.37)	1.08
Depression	16.17 (7.04)	13.34 (5.56)	5.62*
Anger	16.77 (5.23)	13.53 (6.27)	3.96*
Negative self-esteem	16.50 (5.92)	14.22 (4.22)	4.02*
PAQ			
Negative self-esteem	16.97 (5.47)	14.09 (4.23)	6.96**
Emotional instability	21.57 (4.16)	17.98 (4.19)	13.81†
Emotional unresponsiveness	19.63 (4.99)	16.30 (3.74)	11.55†
PFQ-2			
Shame	21.50 (4.59)	19.30 (2.84)	7.04**
Guilt	12.27 (2.51)	11.59 (1.88)	.17
GI guilt	59.60 (13.21)	53.24 (11.31)	5.22*

Note: *BDI* Beck Depression Inventory, *NEO-PI-R* NEO-Personality Inventory-Revised, *PAQ* Personal Adjustment Questionnaire, *PFQ-2* Personal Feelings Questionnaire-2, *GI* Guilt Inventory. Higher scores indicate more symptoms, BDI depression scores may range from 0 to 21, BDI suicide item may range from 0 to 1, NEO-PI-R subscales may range from 8 to 40, PAQ scores may range from 9 to 36, PFQ-2 subscales may range from 0 to 24 for guilt and 0 to 40 for shame, and GI guilt scores may range from 20 to 100

† $.05 < p < .10$, * $p < .05$, ** $p < .01$

heterosexual men. Among gay men (Table 2), however, ANOVAs indicated that older (ages 25 and above) compared to younger (ages 24 and below) men showed fewer mental health problems on almost every index. In addition, older compared to younger gay men had less chronic shame and less chronic guilt as assessed by the GI.

Next, within each age group, correlations of age to mental health, chronic shame, and chronic guilt were examined separately for heterosexual and gay men. Among heterosexual men aged 24 and younger, increased age was correlated with less anger ($r = -.33$, $p < .05$). No other correlations with mental health indices, shame, or guilt were significant. Among gay men aged 24 and younger (Table 3), in contrast, age was correlated with less depression as assessed by the BDI, fewer problems with emotional responsiveness, less negative self-esteem as assessed by the NEO-PI-R, and less chronic shame.

Turning to adults aged 25 and above, for heterosexual men aged 25 and above, increased age was correlated with less anger ($r = -.44$, $p < .01$) and fewer problems with emotional instability ($r = -.39$, $p < .05$). Age was unrelated to indices of mental health for gay men aged 25 and above. Age was not correlated with chronic shame or chronic guilt for heterosexual or gay men aged 25 and above.

Relationship of Chronic Shame and Chronic Guilt to Measures of Mental Health Among Heterosexual and Gay Men

The BDI was correlated with chronic shame, PFQ-2 chronic guilt, and GI chronic guilt (in order, for heterosexual men, *r* was .41, .32, and .39; for gay men, *r* was .43, .41, and .61, all *p*'s $< .01$). The suicidality item was unrelated to the guilt and shame measures of heterosexual men, but was related to chronic shame and the GI measure of chronic guilt (in order, *r* was .31 and .43, $p < .01$). Multiple regressions of chronic shame on the NEO-PI-R subscales and then on the PAQ subscales were run. Similar multiple regressions were run for chronic guilt. Analyses were run separately for heterosexual and gay men. All multiple regressions were significant: The NEO-PI-R subscales were related to chronic shame, PFQ-2 chronic guilt,

Table 3 Correlations of age to mental health, chronic shame, and chronic guilt for gay men ages 24 and younger

Measures	Age
BDI	
Depression	−.40*
Suicidality	−.27
NEO-PI-R	
Anxiety	−.20
Depression	−.34†
Anger	.04
Negative self-esteem	−.37*
PAQ	
Negative self-esteem	−.30†
Emotional instability	−.13
Lack of emotional responsiveness	−.40*
PFQ-2	
Shame	−.45**
Guilt	−.10
GI guilt	−.31

Note: *BDI* Beck Depression Inventory, *NEO-PI-R* NEO-Personality Inventory-Revised, *PAQ* Personal Adjustment Questionnaire, *PFQ-2* Personal Feelings Questionnaire-2, *GI* Guilt Inventory

† $.05 < p < .10$,* $p < .05$, ** $p < .01$

and GI chronic guilt (in order, for heterosexual men, R^2's were .37, .28, and .43; for gay men, R^2's were .32, .27, and .55, all p's $< .001$). The PAQ subscales were also related to chronic shame, PFQ-2 chronic guilt, and GI chronic guilt (in order, for heterosexual men, R^2's were .34, .22, and .34, for gay men, R^2's were .26, .18, and .44, all p's $< .001$). Follow-up correlations were not run as there were not specific predictions for individual adjustment subscales and in order to limit the number of analyses.

Shame Mediates the Age-Related Decline in Depression During Early Young Adulthood

The three mental health variables that showed age-related declines among gay men aged 25 and below were: BDI depression, negative self-esteem on the NEO-PI-R, and emotional unresponsiveness on the PAQ. Sobel tests (Baron and Kenny 1986; Preacher and Leonardelli 2001) were run to examine whether reductions in shame accounted, in part, for the age-related improvement in mental health. Sobel tests indicated that shame was a significant partial mediator of age-related declines in depression as assessed by the BDI during early young adulthood, critical ratio $= -2.07$, $p < .04$. Critical ratios were 1.67, $p < .10$ for negative self-esteem and −1.88, $p < .06$ for emotional unresponsiveness. (The role of chronic guilt as a mediator was not tested as it was not significantly correlated with age among gay men aged 25 and below and hence did not meet the criteria for inclusion as a mediator.)

Relationship of Age to Forms of Coming Out Among Gay Men

Age was not correlated with scores on any of the coming out subscales.

Relationship of Forms of Coming Out to Chronic Shame and Chronic Guilt Among Gay Men

Among gay men, higher scores on the Not Out and Confused subscale and the Not Out and Upset subscales of the GIQ were correlated with more chronic guilt (as assessed by the PFQ-2) as shown in Table 4. Higher scores on the Not Out, Not Self-Accepting subscale were correlated with more chronic shame. Being partially out was not related to chronic shame or chronic guilt. Higher scores on the Out, Proud, but Angry measure were correlated with more ongoing guilt (as assessed by the GI). Finally, gay men scoring higher on the Out and Integrated measure had less chronic shame and less chronic guilt on both indices.

Relationship of Forms of Coming Out to Mental Health Among Gay Men

As a safeguard against capitalization on chance, each coming out subscale was regressed on the set of NEO-PI-R subscales and again on the set of the PAQ subscales. Only when the multiple regression was significant were follow-up correlations run. The only significant multiple regression indicated that the Out, Proud, but Angry subscale was

Table 4 Relationship of forms of coming out to chronic shame and chronic guilt among gay men

Guilt and shame measure	Form of coming out					
	Not Out and Confused	Not Out and Upset	Not Out, Not Self-Accepting	Partially Out	Out, Proud, but Angry	Out and Integrated
PFQ-2						
Shame	.14	.16	.22*	.08	.05	−.25*
Guilt	.28*	.23*	.18	.00	.06	−.41**
GI guilt	.12	.06	.12	−.01	.23*	−.24*

Note: *PFQ-2* Personal Feelings Questionnaire-2, *GI* Guilt Inventory

* $p < .05$, ** $p < .01$

related to the set of NEO-PI-R subscales, $R^2 = .14$, $p < .05$. Correlations with individual NEO-PI-R subscales, run as follow-ups, indicated that gay men who scored higher on the Out, Proud, but Angry subscale had more depressive symptoms ($r = .33$, $p < .01$) and more negative self-esteem ($r = .31$, $p < .01$) scores.

Turning to the BDI, depressive symptoms were inversely correlated with Out and Integrated scores ($r = -.31$, $p < .01$). The other coming out subscales were not related to the BDI total score. The coming out subscales were not related to the suicidality item.

Discussion

Some investigators report more symptoms of poor mental health among gay compared to heterosexual individuals (Bagley and Tremblay 2000; Faulkner and Cranston 1998; Fergusson et al. 1999; French et al. 1998; Lock and Steiner 1999; Morris et al. 2001; Safren and Heimberg 1999). Further, a recent meta-analysis of more than a dozen studies seems to confirm that gay individuals are at greater risk of developing a mental disorder (Meyer 2003). The vast majority of these investigations, however, focus exclusively on adolescent or college samples, rely on reports of lifetime incidence of mental disorders (and hence do not fix the time of the disorder), or combine adolescents and/or college students with older adults. This raises the central question of this investigation: Are gay men in worse mental health than heterosexual men during adulthood? The main conclusion of this study is that, from the mid-twenties onward, the mental health of gay compared to heterosexual men appears quite similar. This conclusion stands when effects of age are controlled and when men are compared separately by age level.

Clues as to why these conclusions are different from those reached in past research are uncovered in further analyses. Gay men in middle young adulthood and midlife, compared to early young adulthood, report fewer mental health symptoms. Older gay men report less anger and fewer symptoms of depression. They have better self-esteem. Finally, they are more emotionally stable and emotionally responsive. In contrast, over the same time period, age is generally not associated with mental health among heterosexual men, though anger does appear to diminish. The disparate pattern of findings for gay and heterosexual men is also evident when the effects of age are examined only in early young adults: Age is correlated with better mental health for gay men, but relates only to reduced anger among heterosexual men.

These findings point to possible adaptive aspects of aging, specifically a lessening of mental health problems during young adulthood. As Landa and Bybee (2007) point out, during young adulthood, parental criticism and approbation may lessen as adults become independent, coping skills are refined, and social pressures to conform ease. Further, among gay adults, older individuals may have greater freedom in choosing their friends and where they live, go to school, and work. Gay adults may choose college, residential, and work communities that are more welcoming and affirming. Moreover, physical violence may also pose less of a threat in adult compared to adolescent living and work environments. These changes in circumstances may contribute to better mental health.

The finding that anger subsides with age among heterosexual men is worthy of note. Rates of substance abuse, violent crime, as well as antisocial and high risk behavior are high among young men, peaking during late adolescence and young early adulthood and falling during their twenties (see review by Mash and Wolfe 2002). Reduction in anger levels may play a role in the improvement in these barometers of civil and sensible behavior.

Chronic Shame and Guilt

A unique aspect of this study is that the role of chronic shame and guilt in the mental health of gay and heterosexual men is examined. Meyer (2003) discusses the stigma associated with being gay. Indeed, homosexuality has been so stigmatized by society that the Publication Manual of the American Psychological Association (2001) stipulates that the term, "homosexual," not even be used in journal articles because it, "has been associated in the past with negative stereotypes." Shame might be expected to be higher among gay compared to heterosexual men as a result.

Shame involves self-devaluation and has long been linked with suicide, drug and alcohol abuse, and depression (see review by Harder 1995). Shame is invariably related to worse mental health among both gay and heterosexual men in this study. Shame is also correlated with concealment of gay identity, relating to higher scores on the Not Out, Not Self-Accepting measure, and lower scores on the Out and Integrated measure. Reasons for concealing sexual identity may range from fear of the consequences to uncertainty as to whether one is gay. The type of concealment that originates from lack of self-acceptance and self-condemnation appears to be the form of closeted behavior most closely aligned with shame. An encouraging finding is that gay (compared to heterosexual) men, in general, do not appear to be more prone to chronic feelings of shame. Further, among gay men during early young adulthood, levels of chronic shame appear to fall and the reduction in shame accounts, in part, for the age-related improvement in depressive symptoms over this time period.

Similar to shame, chronic guilt is unrelated to sexual orientation. Chronic guilt is correlated with poor mental health, and, among gay men, is correlated with concealment and closeted behavior. The index of guilt frequency (the PFQ-2) is associated with two coping responses, namely, confused and upset behavior among individuals who have not disclosed their sexual identity. Perhaps, concealment and attendant dishonesty give rise to repeated feelings of guilt. Alternatively, those individuals who experience recurrent guilt over feelings of attraction to members of the same sex may be reluctant to face these feelings of homosexuality, loath to label themselves as gay, and even more reticent to come out to others. The second inventory of chronic guilt (the GI) specifically prompts for guilt over life decisions and burdensome past events, that is, episode-based guilt. This form of guilt appears more strongly related to poor mental health. This form of guilt, alone, relates to higher scores on the Out but Angry index of coming out behavior. A possible interpretation of these findings is that a betrayal, a severing of a relationship, an episode of discrimination, or some other scarring event(s) involving coming out or sexual orientation may lead some gay individuals to experience enduring anger and ongoing, episode-based guilt.

Relationship of Concealment to Mental Health

The indices of coming out are not related to age and only two subscales (Out but Angry, Out and Integrated) are related to mental health indicators. Gay individuals who score higher on the Out but Angry measure show more symptoms of depression, lower self-esteem, and greater neuroticism, and they are more constrained in their ability to express feelings spontaneously. Perhaps betrayals, social rebuffs, and ostracisms lead not only to out but angry responses, but also serve to undercut mental health. An alternative interpretation involves more broad, societal influences. Discrimination may play a role in the formation of out but angry responses to coming out and may also foment symptoms of poor mental health. Perceived discrimination and racism undermines both physical and mental health (Kessler et al. 1999; McKenzie 2003). Discrimination may, understandably, result in anger as well.

In contrast, individuals with higher scores on the Out but Integrated subscale report fewer depressive symptoms. They presumably have integrated their gay identity into their overall sense of self, and see their sexual identity as one component of who they are. They may be better able to address any discrimination that they do encounter. Perhaps their more positive outlook with respect to their ability to interact successfully with heterosexuals provides both opportunities for confirmatory experiences and less oppressed, dysphoric feelings. Low scores on guilt and shame found among those scoring high on the Out and Integrated index may point to more affirming life experiences or to more adaptive coping skills that result in fewer feelings of depression.

Limitations

This study provides important initial findings that older compared to younger adults are in better mental health. A limitation of this cross-sectional design is that the possibility that highly distressed young men might be less likely with age to serve as participants (perhaps due to suicide, hospitalization, or other problems) cannot be ruled out. Longitudinal study would provide an important complement to this study. In the present study, older gay males were drawn from gay gyms, major airlines, and through referral by acquaintances. It is possible that gay men who are surrounded by other gay men in their free-time activities or at work are better adjusted than those who are isolated, leading to findings that older gay men are in good mental health. (Such an alternative explanation, however, would not account for age-related improvements in mental health among the younger adults.) A probability sample would offer a representative sample and could be used to rule out alternative explanations that this study sample was somewhat unique. This sample was from among individuals relatively well educated and largely employed in white collar jobs. A probability sample might enable relationships to be examined in a more socioeconomically diverse group. Findings from Landa and Bybee (2007) of an age-related decline in eating problems among women dovetail well with these findings of an age-related decline in anger among heterosexual men and generally better mental health among older compared to younger gay men. It would be important in future study to identify mental health challenges unique to gay females in order to explore possible adaptive elements of aging in this group.

A direction for future study would be to explore whether there are age-related differences in the amount of discrimination and stigmatization in gay individuals' school, place of residence, and workplace across the lifespan. Perhaps gay compared to heterosexual men are in worse mental health in high school (as shown in previous studies) because stigmatization by peers is rife there. Perhaps the mental health of gay men is better among older than younger adults in this study because as they moved into and through college, they were met with a more warm, welcoming, and diverse environment in their dormitories and classes than what they had been used to in high school. Perhaps the older gay men in this sample had even greater latitude in selection of colleagues, residence, and workplace conditions. These factors may have affected how willing individuals were to disclose their sexual orientation

(and in what matter) and whether they experienced damaging forms of guilt and shame.

Implications

One of the most important messages of this study is the importance of considering age and the effects of adult development in future studies that examine mental health issues among gay men. Age matters. Among mature adults, gay compared to heterosexual men may not experience more problems with mental health. In the future, researchers may want to report comparisons between gay and heterosexual individuals separately by age level. Further, studies of lifetime prevalence of mental disorders in gay individuals might want to pinpoint the age at which the disorder occurred.

Men, compared to women, are at high risk of suicide and are more prone to violence (Meyer 2003; Mash and Wolfe 2002). A gay sexual orientation places men, compared to women, at elevated risk for anxiety disorders (Meyer 2003). The findings of this study revealing that problems with depression, anger, and anxiety may ease with adult development, particularly among gay men, are reassuring. Correlates of good mental health, such as low levels of chronic guilt and chronic shame as well as healthy approaches to coming out, are identified in this study. Development of constructive means of coping with chronic guilt and shame feelings and the fostering of environments that encourage and support openness about sexual orientation may lead to improvements in men's mental well-being.

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