

## Psychiatric Impact of Gender-Related Abuse Across the Life Course of Male-to-Female Transgender Persons

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*The psychiatric impact of interpersonal abuse associated with an atypical presentation of gender was examined across the life course of 571 male-to-female (MTF) transgender persons from the New York City Metropolitan Area. Gender-related abuse (psychological and physical), suicidality, and Diagnostic and Statistical Manual of Mental Disorders (4th ed., text revision) major depression were retrospectively measured across five stages of the life course using the Life Chart Interview. Among younger respondents (current age of 19–39), the impact of both types of abuse on major depression was extremely strong during adolescence and then markedly declined during later stages of life. Among older respondents (current age of 40–59), the impact of both types of abuse on major depression was strong during adolescence and then marginally declined during later stages of life. The effects of both types of abuse on suicidality were weaker but more consistently observed across the life course among both the younger and older respondents. Gender-related abuse is a major mental health problem among MTF transgender persons, particularly during adolescence. As these individuals mature, however, the consequences of this abuse appear less severe, which may represent the development of moderately effective mechanisms for coping with this abuse.*

### Psychiatric Symptomatology and Gender-Related Abuse of Transgender Persons

Transgenderism is a rare phenomenon that may be described as an incongruence between biological or anatomical sex and gender identity (Levine, 1989). Male-to-female (MTF) transgender persons, the focus of this study, are born with male genitalia and medically assigned as “male” at birth but subsequently develop a sense of themselves as “female,” or at least partially female, in certain situations or roles (Whitlock, 1996). A small but probably increasing percentage of these individuals undergo sexual reassignment surgery in an

attempt to render their sexual characteristics and gender identity more compatible (Cole, Denny, Dyler, & Samons, 2000).

Transgender persons who experience gender dysphoria, and associated reductions in social functioning, may be diagnosed with a gender identity disorder (GID) in conjunction with the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision [DSM-IV-TR]; American Psychiatric Association [APA], 2000; Cole & Meyer, 1998). Studies of MTFs seeking medical or psychiatric treatment suggest that 20% to 50% have lifetime histories of an Axis I disorder other than GID (Bodlund & Armelius, 1994; DeCuyper, Jannes, & Rubens, 1995; Haraldsen & Dahl, 2000; Hoening & Kenna, 1970; Verschoor & Poortinga, 1988). Lawrence’s (2008) review of this literature indicated that 26% to 62% of MTFs also report a lifetime history of substance abuse. Body image disturbances and eating disorders are also higher among MTFs compared to the general population (Vocks, Stahn, Loenser, & Tegenbauer, 2009).

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Studies of individuals presenting at gender clinics have observed levels of anxiety and depressive disorders that are much higher than the general population (Hepp, Kramer, Schnyder, Miller, & Delsignore, 2005). Community surveys suggest rates of depression and suicidality among MTFs that are likewise much higher than the corresponding rates in the general population (Clements-Nolle, Marx, Guzman & Katz, 2001; Clements-Nolle, Marx, & Katz, 2006; Nuttbrock, Rosenblum, & Blumenstein, 2002).

Clinicians have historically assumed that childhood conflict surrounding development of a gender self-concept (Stoller, 1968) or a “fundamental sense of awkwardness or discomfort about one’s anatomical sex” (Steiner, Blanchard, & Zucker, 1985, p. 4) contribute to episodes of depression and suicidality throughout the life course of transgender persons. Recent writers, however, suggest that emotional distress in this population primarily reflects the problems of “gender-variant living in an often hostile social environment” (Cole et al., 2000, p. 170). During adolescence, in particular, many MTFs are verbally taunted and physically beaten by family members, acquaintances, co-workers, neighbors, strangers, and police officers for not conforming to conventional gender role expectations (Balsam, Rothblum, & Beauchaine, 2005; D’Augelli, Grossman, & Starks, 2006), and some of them have been victims of hate crimes (Herek, Gillis, & Cogan, 1999).

Interpersonal abuse associated with gender identity or presentation is not just physically or psychologically hurtful—it threatens core values and beliefs about one’s self in relationship to others, and can be viewed as a type of interpersonal trauma (Lombardi, Wilchins, Priesing, & Malouf, 2001). Most clinicians and researchers assume that gender-related abuse takes a toll on the mental health functioning of MTFs, but the causal impact of abuse on psychiatric functioning in this population has not been sufficiently quantified, and the effects of this abuse across the life course have not been investigated.

Using an innovative methodology, the Life Chart Interview (LCI; Lyketos, Nestadt, Cwi, Heithoff, & Eaton, 1994), we examined the psychiatric impact of gender abuse across the life course of MTFs. As a prelude to the analysis, methodological problems of documenting the psychiatric effects of gender abuse are briefly reviewed, with a discussion of the development of the LCI.

### The LCI

Changes in psychopathology and social relationships over the life course have historically been assessed with either prospective longitudinal or cross-sectional research designs. Longitudinal studies are preferred, but this approach, in addition to the high cost, is hampered

by methodological problems, such as sample attrition (Eaton, 1995). In conventional cross-sectional designs, respondents are asked to recall their experiences during particular times in their life, but this methodology is often flawed by the problems of accurately remembering these experiences (Wittchen et al., 1989).

In recent years, researchers have explored ways of improving conventional cross-sectional assessments by incorporating strategies for improving the recall and dating of remote experiences (Simon et al., 1995). The design of the National Comorbidity Survey (NCS), in particular, included elements intended to improve the recall of lifetime psychiatric history, which may account for the higher prevalence estimates in the NCS compared to earlier national surveys using traditional methodology (Eaton et al., 1997).

The methodology developed in conjunction with the NCS, the LCI, uses time-focused interviewing (all questions are referenced with regard to a particular time point) and sets of personal and social memory cues or anchors to improve the accuracy of symptom recall. Symptoms of major depression, reported during a baseline interview, were accurately recalled 12 years later in a LCI interview (Eaton et al., 1997). The reliability of retrospectively measured clinical depression using the LCI has prompted its use in a number of major mental health surveys around the world (Spijker et al., 2002). The scope of the LCI has been extended to include assessments of mental health functioning and a range of affective disorders (Honig, Hendriks, Akerhuis, & Nolen, 2001; Hunt & Andrews, 1995). Instruments similar to the LCI have been devised to retrospectively describe the long-term course of schizophrenia (Susser et al., 2000). Sociologists have likewise explored ways of improving the recollection of past interpersonal relationships. Using a format similar to the LCI, Furstenberg, Brooks-Gunn, and Morgan (1987), for example, showed that middle-aged mothers could accurately recall important aspects of their family relationships during their adolescence.

This innovative methodology was applied to an analysis of the psychiatric impact of gender-related abuse among MTFs. The protocols were extended to include retrospective measurements of both interpersonal relationships (psychological and physical abuse) and psychiatric distress (major depression and suicidality). These measurements were obtained during time frames corresponding to stages of the life course. Associations among the two forms of gender-related abuse and psychiatric distress (major depression and suicidality) were examined both within and across stages of the life course. This dynamic analysis, incorporating measurements of gender-related abuse and *DSM-IV-TR* (APA, 2000) psychiatric disorder across the life course, provides an improved understanding of psychiatric distress among MTFs and sexual minorities more generally.

## Method

### Respondents

A total of 571 MTFs were recruited in conjunction with the baseline component of the New York Transgender Project, a large ongoing study of this population in the New York Metropolitan Area. Respondents ranged in age from 19 to 59, with a mean age of 37. Twelve years of education were completed by 41.9%, with 18.9% completing 16 years of education. Hispanic identification was 43.9%, with 26.8%, 21.6%, and 7.6% identifying, respectively, as non-Hispanic White, non-Hispanic Black, or some other category. With regard to sexual orientation, 68.6% were attracted to men only (androphilic), 12.5% were attracted to females only (gynephilic), 16.8% were attracted to both men and women (bisexual), and 2.1% were attracted to neither men nor women (asexual). Lifetime “coming out” in one or more interpersonal contexts (e.g., family, friends, work, school) was reported by 84.1% and 66.3% of the younger (aged 19–39) and older (aged 40–59) respondents, respectively. Lifetime use of hormone replacements for the purpose of gender presentation was reported by 77.6% and 61.9% of the younger and older respondents, respectively.

### Sampling Procedures and Features of the Study

Eligibility for inclusion in the study included age 19 or older, the absence of psychotic ideation (two screened out), and MTF transgender identification. The later was defined as a medical assignment of “male” at birth with a later conception of one’s self as not “completely male” in all situations or roles. Study participants were recruited from streets or clubs, newspaper advertisements, transgender organizations in the New York Metropolitan Area (e.g., TRI-ESS, Cross Dressers International, and the Mid Hudson Valley Transgender Association), the Internet, and client referrals of other clients. The project was described as a National Institutes of Health-funded study of health issues among transgender persons. Study participants were reimbursed \$30.00 for the baseline interview.

This is an example of participatory research in that persons of transgender experience were actively involved in all aspects and phases of the research design (Cornwall & Jewkes, 1995). Transgender or gender-variant individuals were involved in the design of the instruments (content of the interview and item wording), data collection and interviewing, data analysis, and dissemination of the findings (e.g., assisting with seminars in the New York Metropolitan Area and presentations at professional meetings). The institutional review board of the National Development and Research Institutes approved all the research protocols.

## Instrument

Face-to-face interviews, which typically lasted about 90 min, were conducted in conjunction with the Life Review of Transgender Experiences (LRTE). The LRTE adopts and extends the protocols of the LCI. It is designed specifically for an MTF population and includes a broad range of social, behavioral, economic, and psychiatric assessments.

In contrast to the largely arbitrary time spans and reporting intervals used in the NCS and other studies that used the LCI, we adopted a life course perspective and incorporated reporting intervals corresponding to life stages. *Early adolescence* was age 10 through 14, and *late adolescence* was age 15 through 19 (for all respondents). For younger respondents between the ages of 19 and 39, *early adulthood* was age 20 through 24, *young adulthood* was age 25 through 29, and *early middle age* was age 30 through 39. For older respondents between the ages of 40 and 59, *early–young adulthood* was age 20 through 29, *early middle age* was age 30 through 39, and *later middle age* was age 40 through 59. Because of variation in the duration of post-adolescent life stages for younger and older respondents, the analysis was stratified by current age. The longer time frames in the life stages past early adulthood, for both younger and older respondents, should be considered when evaluating changes in prevalence across time.

Sets of personal and social memory cues or anchors were utilized to define and personally characterize each age period. Calendar years and (as appropriate) levels of education bounding the life stages were elicited and recorded. Salient personal and social events occurring within these time frames were also elicited and recorded. To facilitate memory, the life stage boundaries, and the personally meaningful events occurring during them, were periodically repeated during the course of the interview. The interview proceeded in a time-sequential manner. All items were asked with reference to the first time period (early adolescence) followed, in sequence, by asking these same questions with regard to later time periods. As the interview proceeded, respondents were reminded about their responses to items during earlier life stages.

In sum, the LRTE represents a semi-structured, narrative approach to the research interview in which respondents are encouraged to “tell their life stories” in a personally meaningful and coherent way (Mishler, 1986).

## Measures

*Major depression.* Clinical depression, specifically major depression, was codified and assessed using relevant sections of the Mini International Neuropsychiatric Interview (MINI; English Version 5.0.0; Sheehan, Janavs, Baker, & Harnett-Sheehan, 2002), linked to

the LCI. The MINI was designed as a brief structured interview for the major Axis I psychiatric disorders in the *DSM-IV-TR* (APA, 2000) and the International Classification of Diseases–10 (2009). Validation and reliability studies have been done comparing the MINI to the other diagnostic instruments (Structured Clinical Interview for DSM Disorders [SCID; 3rd ed., revised; APA, 1987] and the Composite International Diagnostic Review [CIDI, 1990]). The results of these studies show that the MINI has acceptably high validation and reliability scores, but can be administered in a much shorter period of time. In this study, interviewers were trained to complete the MINI by the principal investigator (Larry Nuttbrock), a psychiatric epidemiologist with experience in the assessment of psychopathology in high-risk populations.

The assessment of major depression during specific stages of the life course followed *DSM-IV-TR* (APA, 2000) protocols and proceeded in four diagnostic steps: (a) *Diagnostic Screening*: Respondents were asked to recall, “Were you ever consistently depressed or down, most of the day, every day for at least two weeks?” or “Were you ever less interested in most things or less able to enjoy the things you used to enjoy most of the time for at least two weeks?”; (b) *Diagnostic Symptomatology*: If either of these screens was positive, the presence of seven diagnostic symptoms was determined—appetite increase or decrease, trouble sleeping, fidgeting or restlessness, tiredness or lack of energy, feeling worthless or guilty, difficulty concentrating or making decisions, or suicidal ideation; (c) *Diagnostic Criteria*. If three or more of these diagnostic symptoms were present, the interviewer inquired whether the symptoms overlapped and occurred during the same time frame (*DSM-IV-TR* symptom overlap criteria) and whether the symptoms of depression caused “significant distress or impaired the ability to function at work, socially, or in some other important way” (*DSM-IV* impairment criteria); and (c) *Diagnostic Rule-Outs*: If the diagnostic criteria were met, further inquires were made as to whether the indicated symptoms were due to the loss of a loved one (*DSM-IV-TR* bereavement rule-out), whether there was a medical illness just before the symptoms began (*DSM-IV-TR* medical rule-out), and whether drugs were taken just before the symptoms began (*DSM-IV-TR* substance use rule-out).

Major depression was coded as positive for a given stage of the life course only if the indicated diagnostic symptoms were reported; the diagnostic criteria were met; and no rule-outs were reported for bereavement, illness, or substance use.

*Suicidality*. If respondents were positive for either of the depression screens (during specific stages of the life course), questions were posed regarding suicide ideation (“Did you think about suicide?”), suicide plan (“Did you have a suicide plan?”), and suicide attempt

(“Did you attempt suicide?”). Responses to these three items were scored as 0 (*no*) or 1 (*yes*) and added to form a total suicidality score ranging from zero to three.

*Gender abuse*. For each life stage, respondents were asked, “Were you verbally abused or harassed [or physically abused or beaten] and thought it was because of your gender identity or gender presentation?” Positive responses were followed by queries regarding the frequency with which it occurred (once every five years or longer, once a year, once a month, twice a month, once a week, or almost every day).

For the analyses within life stages—contemporaneous analyses—the frequencies of psychological and physical abuse (assessed separately) were scored as none, periodic (twice a month or less often), or persistent (once a week or more often). Persistent abuse reflected a set of circumstances and psychological context in which abuse was an ongoing and largely inescapable aspect of one’s life.

For the analyses across life stages—lagged analyses—psychological and physical gender abuse were scored as dichotomous (absent or present) and compared to the same dichotomous measurements of abuse at the next life stage. Patterns of stability and change across pairs of life stages were specified as (a) no abuse at either stage (the reference category), (b) abuse during the first stage only (ceased abuse), (c) abuse during the second stage only (new abuse), and (c) abuse during both stages (persistent abuse).

*Gender role nonconformity*. Broad lifetime measures of two aspects of gender role nonconformity—use of female hormones and “coming out” to family, friends, or others—were included in the analysis. Both measures were scored as 0 (*not using hormones or coming out*) or 1 (*using hormones and coming out*).

### Data Analytic Techniques

Across pairs of life stages, depression and suicidality during the second life stage were predicted from the stability and change of gender-related abuse from the first to the second life stage (see Kessler & Greenberg, 1980, for a useful discussion of time-lagged causal modeling of dichotomous measurements). The independent effects of ceased, new, and persistent abuse on major depression (dichotomous outcome variable) were modeled with logistic regression and expressed as odds ratios. Odds ratios equal to one indicate that a given temporal pattern of abuse had an effect on major depression that is no different than “no abuse.” Odds ratios less than one indicate that this effect was less than “no abuse.” Odds ratios greater than one indicate that this effect was (as hypothesized) greater than “no abuse.”

The independent effects of ceased, new, and persistent abuse on suicidality (continuous outcome variable) were estimated with linear regression and expressed as unstandardized regression coefficients (betas). Betas equal to zero indicate that a given temporal pattern of abuse had an effect on suicidality that is no different than “no abuse,” betas less than zero indicates that this effect was less than “no abuse,” and betas greater than zero indicate that this effect was (as hypothesized) greater than “no abuse.”

Most of the analyses were performed separately for younger (aged 19–39) and older (aged 39–59) respondents. Stratification of the analysis by categories of current age was necessary because substantially different time frames were used to define stages of the life course in these different age cohorts. Contemporaneous analyses of the younger respondents were necessarily based on the subsets of respondents who had aged into the designated life stage under analysis. Lagged analyses of the younger respondents were based on the subsets of respondents who had aged into the latter life stages. Since all of the older respondents had aged into all of the designated life stages, reductions in applicable sample sizes were not required for this age group.

All associations among gender-related abuse and psychiatric distress were evaluated for statistical significance (two-tailed tests). These associations (statistically significant or not) were broadly evaluated in terms of hypothesized patterns of effects across different measurements and stages of the life course. Given this analytic focus on patterns of effects (rather than pairs of associations), detailed results of the numerous regression equations are not presented here, but they are available from the first author.

## Hypotheses

For the contemporaneous analyses, incrementally higher levels of gender abuse (from none, to periodic, to persistent) were hypothesized to be associated with incrementally higher probabilities of depression and suicide. Such a “dose-response” association would suggest that gender abuse indeed causes depression and suicide (see Kleinbaum, Kupper, & Morgenstern, 1982).

For the lagged analyses, all patterns of abuse (cessation, initiation, and persistence) across time should be more strongly associated with major depression than “no abuse” across time. It was hypothesized, more specifically, that (a) the cessation of abuse would be more strongly associated with depression than no abuse, (b) new abuse would be more strongly associated with depression than the cessation of abuse, and (c) persistence of abuse would be more strongly associated with depression than the new abuse. Similar hypotheses were posited for the lagged impact of abuse on suicidality.

## Results

### Depression and Suicidality

Lifetime prevalence of major depression was 54.7% and 52.4% for the younger and older respondents, respectively. Lifetime prevalence of major depression during two or more stages of the life course was reported by 32.3% and 35.5% of the younger and older respondents, respectively. For the younger respondents, the lifetime histories of thinking about, planning, or attempting suicide were reported as 53.0%, 34.9%, and 31.2%, respectively. A small minority of the younger respondents (9.6%) reported suicide attempts during two or more stages of life. For the older respondents, thinking about, planning, or attempting suicide were 53.5%, 34.9%, and 28.0%, respectively. A small minority of the older respondents (6.7%) also reported suicide attempts during two or more stages of life.

Major depression was extremely high during early adolescence (38.4%) among the younger respondents, but then declined significantly across the life course into early middle age (19.1%). The younger respondents reported a very high level of attempted suicide during early adolescence (15.6%), but this also declined significantly across the life course into early middle age (8.7%). For the older respondents, major depression was high during early adolescence (23.5%) and remained relatively constant across the life course into early (24.8%) and later (26.1%) middle age. Five-year prevalence estimates of major depression, which adjust for duration of time in the life stages, would show a decrease in major depression across time for both younger and older respondents. Even with this adjustment, the post-adolescent decline in major depression across the life course would be greater among the younger as compared to the older respondents.

### Prevalence of Gender-Related Abuse

For the total sample, 78.1% and 50.1% reported psychological and physical abuse, respectively, at some point in their life. Lifetime psychological abuse was 78.0% and 77.0% among the younger and older respondents, respectively. Lifetime physical abuse was 51.3% and 47.4% for the younger and older respondents, respectively. The perpetrators of both types of abuse for both the younger and older respondents were most often parents or other family members during adolescence; and strangers, neighbors, friends, or police officers during post adolescence.

Persistent psychological abuse was extremely high during early adolescence (44.0% and 32.9% for younger and older respondents, respectively) but declined significantly across the life course into early middle age (7.2% and 13.12% for younger and older respondents, respectively). Persistent physical abuse was high during early

adolescence (12.5% and 10.5% for younger and older respondents, respectively) but then also declined across the life course into early middle age (2.0% and 4.2% for younger and older respondents, respectively).

**Psychiatric Impact of Gender Abuse Within Life Stages**

A dose-response association was, as hypothesized, observed between abuse and depression during early adolescence. For both age groups, the prevalence of major depression during this time period was roughly twice as high among those who were periodically abused (as compared to not abused); and, in turn, roughly twice as high among the persistently abused as compared to the periodically abused. Associations among the two forms of abuse and major depression were consistently strong and statistically significant during early adolescence for both the younger and older respondents. This pattern of dose-response association between abuse and depression was also observed during late adolescence, but the associations become weaker and less statistically significant during post-adolescent stages of the life course. There was no consistent association between abuse and depression during early and later middle

age for both the younger and older respondents. In some of the analyses, applicable data for estimations of the odds ratios become sparse during the later stages of life. Odds ratios were not computed if fewer than five cases were observed in at least one of the table cells (sparse data; see Table 1).

A dose-response association was also, as hypothesized, detected between abuse and suicidality during early adolescence (Table 2). For both age groups, mean suicidality scores during this time period were roughly twice as high among those who were periodically as compared to not abused; and, in turn, roughly twice as high among those who were persistently as compared to periodically abused. For the younger respondents, the associations of gender-related abuse and suicidality typically declined, but did not disappear, during post-adolescence. For the older respondents, associations among both forms of abuse and suicidality diminished somewhat as they matured into early–young adulthood. However, as these older respondents further matured into early and later middle age, associations were again strong and statistically significant. Gender abuse declined significantly with age, but the impact of this lower level of abuse on suicidality remained significant.

**Table 1.** *Contemporaneous Analysis of Gender-Related Abuse and Major Depression Within Five Stages of the Life Course (Percentages of Major Depression)*

| Stages of the Life Course |                  |                 |                   |                  |                  |
|---------------------------|------------------|-----------------|-------------------|------------------|------------------|
| Variable                  | Early Adolescent | Late Adolescent | Early Adult       | Young Adult      | Early Middle Age |
| Current age of 19–39      |                  |                 |                   |                  |                  |
| Ages of life stage        | 10–14            | 15–19           | 20–24             | 25–29            | 30–39            |
| Applicable <i>n</i> =     | 333              | 333             | 307               | 213              | 152              |
| Psychological abuse       |                  |                 |                   |                  |                  |
| None                      | 21.5             | 26.4            | 16.4              | 17.0             | 17.6             |
| Periodic                  | 38.1*            | 29.0            | 23.7              | 33.3*            | 22.6             |
| Persistent                | 55.5**           | 36.4**          | 36.2*             | 37.0*            | 27.3             |
| Physical abuse            |                  |                 |                   |                  |                  |
| None                      | 30.7             | 23.0            | 21.0              |                  |                  |
| Periodic                  | 46.8*            | 37.3*           | 19.2              | — <sup>a</sup>   | — <sup>a</sup>   |
| Persistent                | 64.4*            | 56.0*           | 41.7              |                  |                  |
| Variable                  | Early Adolescent | Late Adolescent | Early–Young Adult | Early Middle Age | Later Middle Age |
| Current age of 39–59      |                  |                 |                   |                  |                  |
| Ages of life stage        | 10–14            | 15–19           | 20–29             | 30–39            | 40–59            |
| Applicable <i>n</i> =     | 238              | 238             | 238               | 238              | 238              |
| Psychological abuse       |                  |                 |                   |                  |                  |
| None                      | 13.3             | 17.3            | 14.6              | 21.7             | 25.4             |
| Periodic                  | 16.2             | 20.0            | 25.0              | 26.4             | 29.3             |
| Persistent                | 42.3**           | 35.1**          | 35.1*             | 35.5*            | 20.0             |
| Physical abuse            |                  |                 |                   |                  |                  |
| None                      | 16.0             | 18.9            | 18.2              | 25.6             | 25.4             |
| Periodic                  | 35.9*            | 32.6*           | 22.0*             | 16.0             | 33.3             |
| Persistent                | 52.0*            | 33.3**          | 55.6*             | 30.0             | 25.0             |

*Note.* Statistical significance was determined by logistic regression analyses evaluating the independent associations of periodic and persistent abuse on depression, using “no abuse” as the reference category.

<sup>a</sup>Not computed because of sparse data, defined as five or fewer cases in one of the cells.

\**p* = .05. \*\**p* = .01.

**Table 2.** *Contemporaneous Analysis of Gender-Related Abuse and Suicidality Within Five Stages of the Life Course (Mean Suicidality Scores)*

| Stages of the Life Course |                  |                 |                   |                  |                  |
|---------------------------|------------------|-----------------|-------------------|------------------|------------------|
| Variable                  | Early Adolescent | Late Adolescent | Early Adult       | Young Adult      | Early Middle Age |
| Current age of 19–29      |                  |                 |                   |                  |                  |
| Ages of life stage        | 10–14            | 15–19           | 20–24             | 25–29            | 30–39            |
| Applicable <i>n</i> =     | 333              | 333             | 307               | 213              | 152              |
| Psychological abuse       |                  |                 |                   |                  |                  |
| None                      | 0.35             | 0.33            | 0.31              | 0.35             | 0.34             |
| Periodic                  | 0.71**           | 0.65**          | 0.39              | 0.55             | 0.51             |
| Persistent                | 0.95**           | 0.79**          | 0.53              | 0.70*            | 0.27             |
| Physical abuse            |                  |                 |                   |                  |                  |
| None                      | 0.50             | 0.40            | 0.35              | — <sup>a</sup>   | — <sup>a</sup>   |
| Periodic                  | 0.90*            | 0.81*           | 0.65              | — <sup>a</sup>   | — <sup>a</sup>   |
| Persistent                | 1.19**           | 1.44**          | 0.50              |                  |                  |
| Variable                  | Early Adolescent | Late Adolescent | Early–Young Adult | Early Middle Age | Later Middle Age |
| Current age of 39–59      |                  |                 |                   |                  |                  |
| Ages of life stage        | 10–14            | 15–19           | 20–29             | 30–39            | 40–59            |
| Applicable <i>n</i> =     | 238              | 238             | 238               | 238              | 238              |
| Psychological abuse       |                  |                 |                   |                  |                  |
| None                      | 0.09             | 0.27            | 0.35              | .31              | .34              |
| Periodic                  | 0.06             | 0.25            | 0.65              | .66**            | .67**            |
| Persistent                | 0.88**           | 0.93**          | 0.44              | .84**            | .88**            |
| Physical abuse            |                  |                 |                   |                  |                  |
| None                      | 0.17             | 0.28            | 0.37              | 0.42             | 0.44             |
| Periodic                  | 0.58**           | 0.75**          | 0.72*             | 0.56*            | 0.85**           |
| Persistent                | 1.08**           | 1.13**          | 0.75              | 1.20**           | 1.00**           |

*Note.* Statistical significance was determined by linear regression analyses evaluating the independent associations of periodic and persistent abuse on depression, using “no abuse” as the reference category.

<sup>a</sup>Not computed because of sparse data, defined as five or fewer cases in one of the cells.

\**p* = .05. \*\**p* = .01.

**Psychiatric Impact of Gender-Related Abuse Across Life Stages**

Table 3 displays the results of a lagged analysis of gender-related abuse on major depression across the life course, computed separately for younger and older respondents.

In the transition from the first to second stages of life (early to late adolescence), all of the hypothesized effects of gender-related abuse on major depression were consistently supported. For both forms of abuse (psychological and physical) among younger and older respondents (four models), the odds ratios of abuse cessation (i.e., abuse occurring during early but not late adolescence) compared to no abuse at either stage on major depression varied from 0.72 to 1.16 (indicating no effect), the odds ratios of new abuse (i.e., abuse during late but not early adolescence) compared to no abuse at either stage on major depression varied from 1.64 to 2.00 (indicating a moderate effect), and the odds ratios of persistent abuse (i.e., abuse during both early and late adolescence) compared to no abuse at either stage on major depression varied from 2.20 to 2.71 (indicating a strong effect).

In the transition from the second to third stages of life, this hypothesized pattern of effects was also consistently

detected. In the transition from the third to fourth stages of life, among the younger respondents, newly experienced abuse had a stronger impact on major depression than persistently experienced abuse. No effects of abuse on depression were found among the older respondents at this transition point. In the transition from the fourth to the fifth stages of life, no effects of abuse on depression were found in either age group.

Results of a parallel, lagged analysis of gender-related abuse on suicidality across the life course are summarized in Table 4.

Across all four life stage transitions, with some exceptions, the hypothesized effects of gender-related abuse on suicidality were generally supported. In contrast to the effects of abuse on major depression, which were observed most consistently during early stages of life, significant effects of abuse on suicidality were observed across the full life course, especially among the older respondents.

**Additional Analyses**

*Gender role nonconformity.* Gender-related abuse should be higher among respondents who showed the most gender role nonconformity. Gender role

**Table 3.** *Lagged Analysis of Gender-Related Abuse and Major Depression Across the Life Course (Odds Ratios)*

| Variable                               | Life Course Transitions                             |  |   |   |
|--|---|--|---|---|
|  | Early to Late Adolescent<br>(First to Second Stage) | Late Adolescent to<br>Early Adult<br>(Second to Third Stage)       | Early Adult to<br>Young Adult<br>(Third to Fourth Stage)            | Young Adult to Early<br>Middle Age<br>(Fourth to Fifth Stage) |
| Current age of 19–39                   |   |  |   |   |
| Psychological abuse across life stages |   |  |   |   |
| Neither stage (reference)              | —   | —  | —   | —   |
| Earlier stage only (ceased)            | 0.91  | 1.74   | 0.16  | 0.85  |
| Later stage only (new)                 | 1.64  | 1.37   | 3.41*   | 0.78  |
| Both stages (persistent)               | 2.20*   | 2.51*  | 1.96  | 1.52  |
| Physical abuse across life stages      |   |  |   |   |
| Neither stage (reference)              | —   | —  | —   | —   |
| Earlier stage only (ceased)            | 1.16  | 0.49   | 1.00  | 1.61  |
| Later stage only (new)                 | 1.84  | 2.29*  | 5.43*   | 1.32  |
| Both stages (persistent)               | 2.71*   | 3.78*  | 1.97  | 2.10  |
| Variable                               | Early to Late Adolescent<br>(First to Second Stage) | Late Adolescent to<br>Early–Young Adult<br>(Second to Third Stage) | Early–Young Adult to<br>Early Middle Age<br>(Third to Fourth Stage) | Early to Later<br>Middle Age<br>(Fourth to Fifth Stage)       |
| Current age of 39–59                   |   |  |   |   |
| Psychological abuse across life stages |   |  |   |   |
| Neither stage (reference)              | —   | —  | —   | —   |
| Earlier stage only (ceased)            | 0.94  | 0.59   | 1.41  | 0.08  |
| Later stage only (new)                 | 1.84  | 1.29   | 2.00  | 0.86  |
| Both stages (persistent)               | 2.35**  | 2.41**   | 1.73  | 1.30  |
| Physical abuse across life stages      |   |  |   |   |
| Neither stage (reference)              | —   | —  | —   | —   |
| Earlier stage only (ceased)            | 0.72  | 1.06   | 0.99  | 0.99  |
| Later stage only (new)                 | 2.00  | 1.74   | 0.49  | 0.70  |
| Both stages (persistent)               | 2.42*   | 2.38*  | 1.10  | 1.14  |

*Note.* Statistical significance was determined by logistic regression estimating the independent associations of periodic and persistent abuse on depression, using “no abuse” as the reference category.

\**p* = .05. \*\**p* = .01.

nonconformity may be expressed by “coming out” to others regarding one’s gender identity or otherwise publicly communicating this identity by physically transforming one’s body with the use of hormone supplements (or other procedures designed to produce a more feminine appearance). Correlations were indeed observed between lifetime measures of “coming out” and hormone use with lifetime measures of psychological and physical gender abuse (*r*s ranging from .38–.52). The respondents were more likely to experience gender-related abuse if they, in one way or another, made their transgender identity public. However, as reflected by the moderate sized correlations, many individuals who did not display their transgender identity in public nonetheless experienced gender-related abuse. This may have been the result of a feminine demeanor or other factors.

Associations of lifetime “coming out” and hormone use with the two lifetime measurements of psychiatric distress (major depression and suicidality) were significantly reduced when measurements of gender-related abuse were incorporated in the analysis (data not shown). This suggests that public displays of gender

identity affect psychiatric distress largely because of increased gender-related abuse.

*Age differences.* Age (continuously measured) was not associated with lifetime measurements of gender-related abuse. The observed associations among the stage-specific measurements of gender abuse and psychiatric distress were, therefore, probably not confounded by age. The stronger associations among gender-related abuse and psychiatric distress during adolescence among the younger (aged 19–39), compared to older (aged 40–59), respondents, however, may partially reflect higher levels of gender role nonconformity among the younger respondents (data not shown).

*Ethnicity.* Non-Hispanic Blacks reported lower lifetime levels of major depression (non-Hispanic Whites = 46.8%, non-Hispanic Blacks = 42.6%, Hispanics = 54.2%, and non-Hispanic other = 47.6%). A logistic regression model of the four categories of ethnicity (using non-Hispanic Whites as the reference group) as predictors of lifetime major depression indicated that the difference in lifetime depression between non-Hispanic Blacks

**Table 4.** Lagged Analysis of Gender-Related Abuse and Suicidality Across the Life Course (Unstandardized Regression Coefficients)

| Life Course Transitions                |   |  |  |   |
|--|---|--|--|---|
| Variable                               | Early to Late Adolescent<br>(First to Second Stage) | Late Adolescent to<br>Early Adult<br>(Second to Third Stage) | Early Adult to<br>Young Adult<br>(Third to Fourth Stage) | Young Adult to Early<br>Middle Age<br>(Fourth to Fifth Stage) |
| Current age of 19–39                   |   |  |  |   |
| Psychological abuse across life stages |   |  |  |   |
| Neither stage (reference)              | —   | —  | —  | —   |
| Earlier stage only (ceased)            | .24   | .35*   | -.17   | -.21  |
| Later stage only (new)                 | .41*  | .42*   | .38  | .05   |
| Both stages (persistent)               | .55*  | .26*   | .24*   | -.01  |
| Physical abuse across life stages      |   |  |  |   |
| Neither stage (reference)              | —   | —  | —  | —   |
| Earlier stage only (ceased)            | .43   | .15  | -.03   | -.23  |
| Later stage only (new)                 | .44*  | .17  | .43  | -.27  |
| Both stages (persistent)               | .75**   | .51**  | .67**  | .55   |

  

| Variable                               | Early to Late Adolescent<br>(First to Second Stage) | Late Adolescent to<br>Early–Young Adult<br>(Second to Third Stage) | Early–Young Adult to<br>Early Middle Age<br>(Third to Fourth Stage) | Early to Later<br>Middle Age<br>(Fourth to Fifth Stage) |
|--|---|--|---|---|
| Current age of 39–59                   |   |  |   |   |
| Psychological abuse across life stages |   |  |   |   |
| Neither stage (reference)              | —   | —  | —   | —   |
| Earlier stage only (ceased)            | -.02  | .16  | .11   | -.08  |
| Later stage only (new)                 | .40*  | .35  | .43*  | .31*  |
| Both stages (persistent)               | .51**   | .47**  | .39**   | .54**   |
| Physical abuse across life stages      |   |  |   |   |
| Neither stage (reference)              | —   | —  | —   | —   |
| Earlier stage only (ceased)            | .18   | .33  | .29   | -.09  |
| Later stage only (new)                 | .37*  | .50*   | .53*  | .37   |
| Both stages (persistent)               | .62**   | .57**  | .22   | .58*  |

Note. Statistical significance was determined by linear regression estimating the independent associations of periodic and persistent abuse on depression, using “no abuse” as the reference category.

\* $p = .05$ . \*\* $p = .01$ .

and non-Hispanics Whites was statistically significant ( $B = -.73$ ;  $SE = 0.24$ ;  $p = .00$ ; odds ratio = 0.48).

Ethnic differences in lifetime psychological abuse were small and not statistically significant (non-Hispanic Whites = 75.3%, non-Hispanic Blacks = 76.9%, Hispanics = 80.9%, and non-Hispanic other = 78.7%). Ethnic differences in lifetime physical abuse were observed (non-Hispanic Whites = 36.0%, non-Hispanic Blacks = 54.5%, Hispanics = 55.3%, and non-Hispanic other = 57.4%). A logistic regression model of the four categories of ethnicity (using non-Hispanic Whites as the reference group) as predictors of lifetime physical abuse showed that non-Hispanic Blacks ( $B = .74$ ;  $SE = 0.24$ ;  $p = .00$ ; odds ratio = 2.16), Hispanics ( $B = .77$ ;  $SE = 0.21$ ;  $p = .00$ ; odds ratios = 2.18), and non-Hispanic others ( $B = .86$ ;  $SE = 0.33$ ;  $p = .01$ ; odds ratio = 2.37) reported higher lifetime levels of this type of abuse compared to non-Hispanic Whites.

The significantly different levels of depression and physical abuse reported by the non-Hispanic Blacks (compared to the other ethnic groups) suggest that the association between physical abuse and depression may be confounded by ethnicity (non-Hispanic Blacks;

see Kleinbaum et al., 1982). To evaluate this potential confounding, the effects of lifetime physical abuse on lifetime depression were compared across a bivariate model (uncontrolled  $B = .61$ ;  $SE = 0.17$ ;  $p = .00$ ; odds ratio = 1.85) and a multivariate model that included ethnicity (non-Hispanic Blacks vs. all other groups) as a covariate (controlled  $B = .66$ ;  $SE = 0.17$ ;  $p = .00$ ; odds ratio = 1.93). The estimated impact of physical abuse on depression was roughly similar in the two models ( $B = .61$  vs.  $B = .66$ ; less than 10% difference) and we therefore concluded that ethnicity is not a confounder in the association between physical abuse and major depression (see Kleinbaum et al., 1982).

### Summary

The findings of this study provide the basis for a better understanding of the prevalence and interrelationships of psychiatric distress and gender-related abuse among MTF transgender persons and sexual minorities more generally.

### Prevalence of Psychiatric Distress

The findings of this study, first of all, confirm the extremely high levels of lifetime psychiatric distress and gender-related abuse among MTFs that have been suggested in the literature. Lifetime major depression in this study of MTFs (54.3%) was almost three times higher than the corresponding estimate in the general population (19.6%), as determined in the NCS. Lifetime suicide ideation (53.5%) was more than three times higher than the corresponding NCS estimate in the general population (13.5%). Lifetime suicide plans and attempts (35.0% and 27.9%) in this sample of MTFs were seven to 10 times higher than the corresponding NCS estimates (3.9% and 4.6%). Our estimate of lifetime suicide attempts is marginally less than that which was observed among transgender persons in the San Francisco study (32.0%; Clements-Nolle et al., 2006).

Understanding these very high levels of lifetime psychiatric distress is enhanced by examining them across the life course. The younger respondents in this study (aged 19–39) recalled *very high* levels of major depression (38.4%) and suicidality during early adolescence, which then declined by about 50% as they matured into early and young adulthood. The older respondents (aged 40–59) reported high (23.5%), but comparatively lower, levels of depression and suicidality during early adolescence, but these rates remained comparatively constant as they matured into early–young adulthood. These levels of retrospectively assessed *DSM-IV-TR* (APA, 2000) major depression during the early adolescence (aged 10–14) of MTFs are approximately two to three times higher than the current estimates of *DSM-IV-TR* major depression among adolescents (aged 12–17) in the general population (Office of Applied Studies, 2005).

High levels of emotional distress during adolescence followed by declines in this distress across the life course are typically understood in developmental terms, focusing on the problems of identity development during early adolescence (puberty). Sexual identification is viewed as problematic for sexual minorities and transgender individuals in particular (Pauly, 1998). Elevated levels of depression and suicidality during this early stage of the life course are understood as temporary by-products of the strain and confusion associated with forming a sexual identity at odds with societal norms (Savin-Williams & Ream, 2003). After adolescence, many of these individuals eventually embrace their sexual and gender identity and may experience an improved sense of well-being as a result (Halpin & Allen, 2004).

This essentially developmental view of changes in psychiatric distress across the life course of sexual minorities may *partially* explain the life course trajectories of major depression and suicidality observed in this study of MTF transgender persons. The different life course patterns of psychiatric distress observed among the

younger and older respondents suggests that development and resolution of this distress is somewhat different across generations (see Alwin & McCammon, 2004). Compared to the older respondents, the younger MTFs in this study reported comparatively higher levels of psychiatric distress during early and late adolescence, but these very high levels of distress declined after adolescence. As a result, during early and young adulthood the prevalence of depression and suicidality were similar for the younger and older respondents. The comparatively high levels of distress during adolescence among the younger respondents may partially reflect the increased public visibility of their transgender identity.

### Prevalence of Gender-Related Abuse

The findings of this study also confirm the high levels of gender-related abuse among sexual minorities, as previously reported in the literature. Most of the respondents in this study (78.1%) previously experienced gender-related psychological abuse, and one half (50.1%) of them previously experienced gender-related physical abuse. Understanding these lifetime levels of abuse, like the understanding of psychiatric distress, is clearly improved by viewing them across the life cycle. The prevalence of both forms of gender abuse was extremely high during early and late adolescence but subsequently declined across the life course.

### Associations of Psychiatric Distress and Gender-Related Abuse

The prevalence of psychiatric distress and its association with gender-related abuse is best understood by viewing these associations across the life course. The findings of this study strongly suggest, but do not fully demonstrate, that gender-related abuse *directly causes* major depression and suicidality during the adolescence of MTFs. Causality is suggested by the strong, contemporaneous dose-response associations between gender-related abuse and psychiatric distress during both early and late adolescence, and by the lagged effects of gender-related abuse on psychiatric distress across early and late adolescence.

A causal association between gender abuse and depression or suicide is also suggested in the literature. Factors associated with prejudice in American society constitute social stressors that take a toll on mental health (Meyer, 2003), and ostracism from peers (a form of abuse) is strongly associated with psychiatric distress among adolescents and transgender or gender-variant adolescents in particular (Zucker & Bradley, 1995). It should be emphasized, nonetheless, that observed associations of gender abuse and depression or suicide may be the product of numerous unaccounted or unknown factors, including family psychopathology. It should also be emphasized that gender dysphoria may itself,

to some degree, be a determinant of psychopathology in this population.

If psychiatric distress during adolescence is primarily determined by gender-related abuse, purely developmental explanations of distress during this period of life are inadequate. Psychiatric distress is not a developmental universal of adolescence in this population; it largely reflects interpersonal abuse associated with a non-normative presentation of gender.

The apparent causal impact of gender-related abuse on psychiatric distress during adolescence became increasingly ambiguous during subsequent stages of life. This may reflect the reduced prevalence of both forms of gender-related abuse in later stages of life, as well as increasingly effective psychological mechanisms for coping with these reduced levels of abuse. Repeated exposures to abuse may result in a psychological desensitization to their effects, cognitions about abusers may be developed that counteract or neutralize the effects of abuse (e.g., condemning the condemners), and behavioral routines and lifestyle choices may be pursued that limit the frequency and lethality of abuse (e.g., dressing in the female role only in selected locations). Additional research is needed to clarify the mechanisms for successfully coping with gender-related abuse during post-adolescence.

An adequate understanding of the psychiatric sequelae of gender-related abuse among MTFs, and sexual minorities more generally, also needs to consider the differential impact of this abuse on different forms of psychiatric distress across the life course. During adolescence, the gender-related abuse is broadly causative of psychiatric distress; it causes both major depression and suicidality. After adolescence, the impact of gender-related abuse on major depression became increasingly tenuous. In contrast, the impact of abuse on suicidality (while experienced less frequently) remained strong (and may even have increased) during middle age and beyond. Additional research is needed to clarify the different effects of gender-related abuse on different types of psychiatric distress across the life course.

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