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Childhood Gender-Role Nonconformity and Adult Psychopathology

Andres Carrion

DePaul University, acarrio1@depaul.edu

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Childhood Gender-Role Nonconformity and Adult Psychopathology

Master's Capstone Project

DePaul University

By Andrés Carrión

CHILDHOOD GENDER-ROLE NONCONFORMITY

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Abstract

Children who endorse cross-gendered behaviors, or behaviors that deviate from the sociocultural expectancies of a member of a specific gender (e.g., opposite-sex toy preferences), are described as being gender nonconforming. Gender nonconforming children are often subjected to victimization and childhood maltreatment, and because gender roles are much more rigid in boys than in girls, boys may be at a heightened risk for victimization. Past research suggests that gender nonconforming children are at risk for maladaptive development, such that gender nonconforming children are placed at a heightened risk for poor mental health outcomes due to the victimization and adversity they experience. The current review aims to build upon previous work and examine the effects of cross-gendered behaviors during childhood and poor mental health in adulthood and to explore the roles of victimization, biological sex, and sexual orientation on the association.

Keywords: childhood gender nonconformity, victimization, psychopathology

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Childhood Gender Nonconformity and Adult Psychopathology

Lesbian, gay, and bisexual (LGB) individuals represent a small but significant population. In the United States, roughly 3.4% of individuals identify as LGBT (Gates & Newport, 2012), and despite an increase in LGB visibility and changes in the political climate, LGBT individuals remain at risk for victimization, harassment, and are a target for hate crimes. On June 12th, 2016, the LGBT community suffered a terrible loss when a gunman opened fire at Pulse, a gay night club in Orlando, FL. Forty-nine individuals were murdered and fifty-three were injured, making it the largest massacre in modern U.S. history.

Research on the victimization experienced by the LGB community has grown immensely in the past three decades. Savin-Williams (1994) conducted a systematic review of the literature surrounding the issues LGB individuals face and found that LGB youth are likely to experience several psychosocial issues which stem from the verbal and physical abuse they experience. Specifically, Savin-Williams stated that LGB youth are more likely than their heterosexual counterparts to experience school-related problems, legal problems, prostitution, substance use, suicide/suicidal ideation, and are more likely to run away from home. Further, in a more recent review, Meyer (2003) indicated in his review that LGB individuals have a higher prevalence of mental disorders in comparison to their heterosexual counterparts. The rates of mental disorders among LGB individuals were found to stem from minority stress, or the stress from the hostile social environments they live in that result from stigma, prejudice, and internalized homophobia (Meyer, 2003).

Though the research suggesting that sexual orientation is a significant predictor of mental health disorders and victimization is compelling, a small but growing body of literature suggests

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that childhood gender-role nonconformity (CGNC) may be a more proximal predictor.

Individuals who endorse cross-gender behaviors, or behaviors that deviate from the sociocultural expectancies of a member of a specific gender, are described as being gender nonconforming.

Childhood gender nonconformity (CGNC) has been defined as a "natural variation of human gender expression" (Hidalgo, Kuhns, Kwon, Mustanski, & Garofalo, 2015, p.3). Gender expression refers to the ways in which masculinity and femininity manifest themselves through our behaviors, our thoughts, and our emotions (Hegelson, 2012; Martin, 1990). CGNC encapsulates many behaviors but typically includes having opposite-sex toy and playmate preferences. So, boys who are gender nonconforming might prefer girls as playmates and may also prefer playing dress up, or other stereotypically feminine activities. Likewise, gender nonconforming girls might prefer boys as playmates and may also engage in rough housing and other stereotypical masculine activities (Bailey & Zucker 1995). Because gender nonconforming children do not adhere to traditional gender roles, they may elicit many negative reactions as gender role violations are taken very seriously across many cultures. However, when comparing male gender nonconformity to female gender nonconformity, the former is viewed as the greater violation (Hegelson, 2012).

Gender roles are typically much more rigid for men than they are for women. As children, boys and girls are gendered differently: boys are gendered earlier and more intensely than girls are (Hegelson, 2012; Martin, 1990). One study (Kane, 2006) found that many heterosexual fathers viewed masculinity as a goal they had to help their sons achieve. Because boys' gender roles are so rigid, people are generally less welcoming to cross-gendered behaviors in boys in comparison to girls' cross-gendered behaviors. As a society, people are generally

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more accepting of girls who play with action figures than boys who play with dolls (Hegelson, 2012). This may be because both anecdotal and empirical evidence suggest that CGNC, in boys especially, is associated with sexual orientation. Kane (2006) found that many parents were concerned that their child's cross-gendered behaviors would result in their child's same-sex orientation. A meta-analysis of 41 studies conducted by Bailey and Zucker (1995) found that cross-gendered behaviors such as opposite sex toy and playmate preferences were significantly correlated with adult same-sex orientation, and this finding was significantly stronger for men than it was for women. Indeed, these results supported the hypothesis of Kane (2006). This suggests that many children, especially boys, who are gender nonconforming grow up to be same-sex oriented.

Because of the association between CGNC and actual or perceived same-sex orientation, and because of societal homophobia, children who are gender nonconforming are likely to experience a difficulty bonding with their same-sex parents. Landolt and colleagues (2004) found that in a sample of gay and bisexual men, gender nonconformity was directly associated with parental rejection, and that paternal parental rejection mediated the relationship between childhood gender nonconformity and adult attachment anxiety. Moreover, the literature indicates that children who endorse cross-gendered behaviors are also disproportionately placed at an elevated risk for victimization (D'Augelli, Grossman, & Starks, 2006; Hidalgo et al., 2015; Plöderl & Fartacek, 2009; Roberts, Rosario, Corliss, Koenen, & Austin, 2012; Roberts, Rosario, Slopen, & Austin, 2013; Sandfort, Melendez, & Diaz, 2007; Toomey, Ryan, Diaz, Card, & Russell, 2010; van Beusekom, Baams, Bos, Overbeek, & Sandfort, 2015), and unlike other children who suffer from victimization, a unique characteristic of CGNC is that gender

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nonconforming children are often at risk for victimization from peers, parents, and other people involved in their lives (Alanko et al., 2009; Friedman et al., 2011; Roberts et al., 2012).

In addition to to having a difficult time bonding with their same-sex parents, nonconforming children also have a harder time bonding with their peers (Carter, & McCloskey, 1984; Hegelson, 2012). For example, Bos and Sandfort (2014) examined peer relations among sexual minority Dutch youth. Results indicated that gender nonconformity had a direct effect on victimization and peer role strain, and gender nonconformity was negatively correlated with the quality of peer relationships. Similar findings have been reported in other studies (Landolt, Bartholomew, Saffrey, Oram, & Perlman, 2004).

Building on the earlier work of Savin-Williams (1994), Collier et al. (2013) conducted an extensive systematic review on the association between CGNC, victimization, and psychosocial functioning. In this review of 39 articles, Collier and colleagues found that CGNC in adolescence is associated with various psychosocial and health problems, including school-related problems, substance use, and poor mental health. Moreover, they found that these negative outcomes stem from victimization experienced by gender-nonconforming individuals. The evidence suggesting that CGNC during adolescence is associated with victimization and consequential health outcomes is compelling. However, while it is important to explore the negative consequence of CGNC in adolescence, it is also important to explore the effects that CGNC has on psychosocial functioning in adulthood.

The current review of the literature aims to further the work of both Savin-Williams (1994) and Collier et al. (2012) by examining the effects of gender-role nonconformity during childhood and its effects on mental health in adulthood. It will also examine the victimization

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and mental health differences between men and women who were non-conforming as children, based on literature suggesting that negative effects will be stronger for men.

Primary Hypotheses

This systematic review seeks to examine the extent to which CGNC is associated with psychopathology as indicated in the literature to date. This review will explore the following aims:

- A. CGNC will be significantly associated with psychopathology during adulthood.
- B. The relationship between CGNC and adult psychopathology will be significantly mediated by psychological, physical, and/or sexual victimization.
- C. The biological sex of the child will moderate the pathway between CGNC and childhood victimization.
 - a. Men, in comparison to women, will report having experienced more victimization for gender role violations.
 - b. Men who exhibited CGNC will be consequently placed at a higher risk than women for psychopathology.

Methods

Selection Process

The study selection procedure included an online literature search using the following databases: *Google Scholar*, *PsychInfo*, and *EBSCOHost*. Some studies were also found by looking through the references of relevant scholarly works. To avoid publication bias (i.e., the bias that only studies with significant findings are published) dissertations and theses were also included in the selection of studies. Dissertations and theses were found via online article

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databases such as, *ProQuest Dissertations and Theses Global*. The following keywords were used to facilitate the literature search: *childhood gender nonconformity, childhood gender atypicality, childhood gender expression, childhood gender role violation, childhood gender-role nonconformity, victimization, harassment, childhood maltreatment, psychological distress, psychopathology, depression, anxiety, posttraumatic stress, and mental health.*

Inclusion and Exclusion Criteria.

Altogether, 11 studies met the following inclusion criteria: 1) studies were selected from the English language literature; 2) retrospective studies measured gender nonconformity during childhood and current psychopathology; 3) prospective studies measured gender nonconformity during childhood and then measured psychopathology during adulthood; 4) childhood was defined as 13 years of age or younger; 5) adulthood was defined as 18 years of age or older; 6) CGNC was defined as a variation of gender expression and not feelings of gender dysphoria. For this reason, studies that look at gender nonconformity among transgender individuals did not meet inclusion criteria. 7) Studies that did not operationally measure gender-role nonconformity in the context of cross-gendered behaviors were also excluded from review. For instance, one study was not included in the analysis because they measured gendered personality characteristics (i.e., agency and unmitigated communion; Josephson & Whiffed, 2007). Lastly, research on the relationship between CGNC and adult psychopathology is a fairly new area of study within the realm of psychopathology, with older studies dating back to 2002. Because of this, no publication date was incorporated into the inclusion and exclusion criteria.

Data Extraction.

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The author and a doctoral-level psychologist crafted a detailed coding protocol, which facilitated the extraction process of relevant information from each study. The protocol included information such as publication date, demographics of participants in each study (e.g., sex), independent (CGNC) and outcome (adult psychopathology) variables, and mediating (childhood victimization) variables.

Variables of Interest

Childhood gender-role nonconformity. CGNC is the independent variable. This variable included cross-gendered behaviors such as a closer bond with the opposite-sex parent, a preference for opposite-sex playmates, and a preference for opposite-sex toys, as well as other preferences and behaviors stereotypically associated with the opposite gender. All studies measured CGNC retrospectively. Popular measures of CGNC were the Recalled Childhood Gender Identity/Gender Role Questionnaire (Zucker et al., 2006), the Continuous Gender Identity Scale and the Occupational Preferences and Hobby Preferences Scale (Skidmore, Linsenmeier, & Bailey, 2006). Two studies used a one item measure to assess CGNC. For example, Cook, Sandfort, Nel, and Rich (2013) measured CGNC by asking participants “*How do you present yourself?*” Participants were then given three response options to choose from: “*In a feminine way,*” “*In a masculine way,*” or “*No preference.*”

Psychopathology. Psychopathology is the dependent, or outcome, variable. The studies that were included in the analysis looked at various outcomes, such as posttraumatic stress, depression, and suicidal ideation. Because the outcome variables are all different, the outcome variable in this review will be any form of maladaptive psychological development and will be described as psychopathology. All studies that met inclusion criteria measured current

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psychopathology. Because different studies looked at different outcomes, different measures were used to measure psychopathology; however, most used a validated tool for measuring mental health outcomes such as the Center for Epidemiological Studies Depression Scale Revised (CESD-R; Van Dam & Earleywine, 2011) and the Beck Depression Inventory (Beck, Steer, & Carbin, 1988).

Childhood victimization. Childhood victimization was examined as a mediator. The studies that were included in the analysis measure different forms of victimization or abuse. Because of this, childhood victimization was described as psychological abuse (e.g., parental neglect, name calling, stigmatization), physical abuse (e.g., being physically beaten, having property damaged), and sexual abuse (unwanted sexual advances) experienced by the participants during childhood. Like CGNC, child abuse was mostly measured retrospectively with the exception of two prospective studies (Roberts et al., 2012; Roberts et al., 2013). An example of a measure used to assess victimization/abuse is the Conflict Tactics Scales (CTS; Straus, Hamby, Boney-McCoy, Sugarman, Finkelhor, 1973).

Biological sex. Biological sex was examined as a moderating variable. Biological sex was simply described as “male” or “female.” All but three studies had both male and female participants. All studies had participants self-identify as male or female (i.e., are you a man or a woman?).

Results

Complete descriptive summaries of the 11 articles included in analyses are displayed in Table 1.

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While a large body of literature has focused on identifying sexual orientation as a risk factor for mental illness, recent research has included a focus on the role of cross-gendered behaviors during childhood and adolescence, and a limited, but growing body of literature has begun exploring the association of these cross-gendered behaviors during childhood and psychopathology in adulthood. Research being done on this relationship has been primarily retrospective, wherein adult participants report on their current mental health and their recalled gender-role nonconformity and victimization. One of the earlier studies to examine this association was by Skidmore and colleagues (2006). They examined the association between CGNC and adult psychological distress among a sample of lesbian women and gay men. On average, results indicated that CGNC was associated with higher levels of psychological distress in adulthood. Since then, work in this field has grown and comparable findings have been reported throughout the literature for mental health outcomes such as depression, posttraumatic stress, and suicidality. A total of 11 studies examined the association between cross-gendered behaviors during childhood and psychopathology in adulthood. Ten out of the eleven studies found results supporting the hypothesis that CGNC is significantly associated with adult psychopathology. That is, the majority of the studies found that people who were more likely to endorse cross-gendered, or gender incongruent, behaviors as children were more likely to develop poor mental health outcomes as adults such as general mental health problems (Baams, Beek, Hille, Zevenbergen, & Bos, 2013; Skidmore, 2007; Toomey et al., 2010), posttraumatic stress (Roberts et al., 2012), depression and anxiety (Alanko et al., 2009; Lippa, 2008; Roberts et al., 2013), and suicidality (Friedman, Koeske, Silvestre, Korr, & Sites, 2006; Plöderl & Fartacek, 2009). One study, however, found results that were inconsistent with the vast majority of the

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literature. Cook and colleagues (2013) explored the association between CGNC and depression among a sample of gay and bisexual men from South Africa. Results indicated that school-based and general discrimination were significantly associated with CGNC and depression; however, CGNC was not significantly associated with depression.

Victimization as a mediator. Nine out of the eleven studies that examined the association between CGNC and adult psychopathology also considered the role childhood victimization and/or stigmatization on this association. Of these nine studies, three studies specifically measured victimization dealt at the hands of parents and adults, and three studies measured victimization on the basis of actual or perceived sexual orientation status.

Results from all nine studies indicated that individuals who reported being more gender nonconforming as children also reported higher levels victimization. Additionally, four studies tested for mediation (Baams et al., 2013; Roberts et al., 2012; Roberts et al., 2013; Skidmore, 2007). Of these four studies, only three found childhood victimization to significantly mediate the association between CGNC and psychopathology (Baams et al., 2013; Roberts et al., 2012; Roberts et al., 2013). In other words, three of the four studies found that individuals who were more gender nonconforming as children were more likely to be victimized, and in turn, were more likely to develop poor mental health in adulthood.

Biological sex as a moderator. Eight out of the eleven studies had samples which included both male and female participants. Six out of the eight studies suggest that the relationship between CGNC and adult psychopathology, is moderated by the biological sex of the individual (Lippa, 2008; Plöderl & Fartacek, 2009; Roberts et al., 2012; Roberts et al., 2013; Skidmore et al., 2006; Toomey et al., 2010). That is, results indicated that gender nonconforming boys are

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placed at an elevated risk for developing psychopathology. One study, however, found different results. Baams and colleagues (2013) explored the role of CGNC on psychological well-being among a sample of Dutch young adults. Baams and colleagues found that the association between gender nonconformity and psychopathology did not differ between men and women, indicating that the association was not moderated by the biological sex of the individual.

Discussion

Research on the victimization experienced by the LGBT community and the consequential mental health outcomes has grown immensely. In recent years, this line of research has begun to include gender-role nonconformity as a predictor for mental health. There has been much research conducted on identifying CGNC as a predictor of poor mental health among children and adolescents, but it has neglected to explore the prolonged effects of CGNC on mental health. This current review explored the effects of cross-gendered behaviors and victimization during childhood on mental health during adulthood. Findings of this review build upon the findings of Collier et al. (2013), which suggest that children who endorse gender nonconforming behaviors are at a heightened risk for developing mental health problems. Moreover, there is sufficient evidence to suggest that CGNC not only affects the mental health of children and adolescents, but that CGNC also has prolonged effects on the mental health of adults. That is, the evidence suggests that adults who were more gender nonconforming as children were more likely to be victimized during childhood and have poor mental health as adults.

However, there are many other factors which play a role in this relationship. For instance, Cook and colleagues (2013), did not find CGNC to be significantly associated with depression in

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adulthood among a sample of South African men. This could suggest that the association between CGNC and mental health is not a universal phenomenon and that this phenomenon may be dependent on other cultural factors. This also emphasizes the need for cultural sensitivity when examining constructs, like gender and gender expression, which are socially and culturally constructed.

Another aim of this review was to examine the role of victimization as a mediator of the association between CGNC and adult psychopathology. Overall, the literature suggests that individuals who were gender nonconforming as children report having experienced more victimization from both peers and adults. Further, a small subset of studies found that victimization significantly mediated the association between CGNC and adult psychopathology. While only a small sample of studies tested for mediation, the results do suggest that there may be temporal relationship between these variables, such that gender nonconforming children are placed at a higher risk for victimization. In turn, these children are placed at a heightened risk for developing psychopathology in adulthood.

A third aim of this review was to explore the role of biological sex as a moderator of the association between CGNC and adult psychopathology. Overall, the literature suggests that the relationship between CGNC and psychopathology is moderated by biological sex. That is, gender non-conforming boys are more likely than girls to be victimized for their gender role violations, and in turn, are placed at an elevated risk for psychopathology during adulthood. This is consistent with the literature that gender roles are more rigid for boys than for girls (Hegelson, 2015; Martin, 1990). However, Baams and colleagues (2013) did not find this pattern of results.

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Limitations

There are several limitations to this research. First, this line of research relies heavily on retrospective data. Out of the 11 studies used in this review, only 2 used longitudinal data. However, even these two studies had participants report on their CGNC retrospectively (i.e., participants were asked to report on CGNC at a later time point than it had occurred). Longitudinal data should be used in order to minimize memory bias and examine the effects of CGNC across developmental time points. Such information could help the development and implementation of interventions targeted towards gender-based and sexual orientation-based bullying and bettering school climate.

Second, there were many inconsistencies in the way different variables were measured. CGNC was the independent variable across all studies, but there are discrepancies in the way this variable was being measured. While some studies used validated measures like the Recalled Childhood Gender Identity/Gender Role Questionnaire (Zucker et al., 2006), other studies simply used a one-item measure. Scholars may want to consider using assessment tools that are culturally responsive and that measure behaviors rather than asking participants to self-identify as either masculine or feminine. Different cultures will have different biases and preferences for being masculine or feminine. So, it is possible that someone from a more conservative culture may be biased and less likely to see themselves as being one or the other. Similarly, all studies measured some form of psychopathology as the outcome variable, but only a handful looked at the same variables (e.g., anxiety, psychological distress). Moreover, there was no consistent way mental health outcomes were measured. For example, the studies that looked at CGNC and depression used different assessment tools for depression.

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Future Directions

While the literature surrounding gender-role nonconformity and psychopathology has come a long way, there is still a lot to examine. First, future researchers may want to consider conducting a longitudinal study that follows a sample of youth into adulthood. The study should be a nationwide study to include a representative sample. CGNC, victimization, and psychopathology should be measured across different developmental time points so that both associations across development can be closely examined. Moreover, researchers may want to consider using self-report and parent-report data to assess for biases. Furthermore, they may also want to consider measuring possible moderating variables that may buffer the effects of victimization such as, social support, positive school climate, and perceived personal safety and acceptance.

Another option is to conduct a meta-analysis. Meta-analysis is a well-accepted statistical method for systematically combining data from various independent studies to determine a single conclusion. This approach incorporates data across a number of studies, and in turn produces larger sample sizes, which positively affect estimates of effect sizes and statistical power. There are many advantages to conducting meta-analyses (Rosenthal & DiMatteo, 2002). This robust way of synthesizing past findings allows scholars to extrapolate findings to a greater population and address methodological inconsistencies present throughout the literature. It strengthens the accuracy of specific findings and can identify moderators that explain different patterns of results. By conducting a meta-analysis, future researchers will be able to 1) Address the several inconsistencies that exist in the extant literature; 2) Quantify the strength and generalizability of

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the relationship between cross-gendered behaviors during childhood and adult psychopathology; and 3) Examine mediations and moderations of this relationship.

Summary

Since the early work of Savin-Williams (1994), research on mental health and victimization among sexual minorities has grown immensely, and the literature surrounding the mental health of LGBT individuals is compelling. In recent years, many scholars have moved to examining the role of CGNC on the association between sexual orientation and mental health, and findings suggest that CGNC is a more proximal predictor for mental health than sexual orientation. This current review aimed to examine the association between CGNC, childhood victimization, and adult psychopathology. Eleven studies were included in the analysis and the vast majority found that CGNC is significantly associated with adult psychopathology, and that this association is significantly mediated by childhood victimization. Further, findings also suggest that these results differ based on the biological sex of the individual, such that men who were gender non-conforming as children are more likely than women to develop psychopathology in adulthood. Though they are convincing, results also highlight areas for growth, such as the need for longitudinal data and consistent methods for measuring cultural constructs.

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Table 1
Descriptive Summary of 11 Articles Included In Review

| Study First Author And Publication Date | Sample Size | Percent Women | Percent Sexual Minority | Attribution For Victimization | Mediation Assessed | Outcome |
|---|-------------|---------------|-------------------------|--|--------------------|----------------------------------|
| Alanko (2009) | 454 | 65% | 50% | Parental relationships, sexual orientation | No | Depression and anxiety |
| Bams (2013) | 192 | 55.2 | 100% | Perceived Stigmatization, sexual orientation | Yes | Psychological wellbeing |
| Cook (2013) | 353 | 0% | 100% | School-based and general discrimination, sexual orientation | No | Depressive symptoms in adulthood |
| Friedman (2006) | 96 | 0% | 100% | Bullying, not-specific to sexual orientation/ | | |
| Lippa (2008) | 905 | 59.67% | 35.80% | Not measured | No | Anxiety in adulthood |
| Plöderl (2009) | 290 | 51% | 49% | Childhood harassment, not-specific to sexual orientation/ | No | Current and previous suicidality |
| Roberts (2012) | 9,369 | 63% | 3.9% | Childhood abuse before age 11, not-specific to sexual orientation/ | Yes | Posttraumatic stress |
| Roberts (2013) | 10,655 | -- | -- | Childhood abuse before age 11, not-specific to sexual orientation/ | Yes | Depressive symptoms |
| Skidmore (2006) | 94 | 47% | 100% | Not measured | | Psychological distress |
| Skidmore (2007) | 356 | 0% | 49% | Stigmatization, sexual orientation/gender nonconformity | Yes | Psychological distress |
| Toomey (2010) | 245 | Cannot tell | 100% | School-based victimization, sexual orientation | | Life satisfaction |

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Appendix A

Meta-analyses are statistical techniques which allow scholars to better understand the magnitude of a given association. This is of particular value whenever discrepancies are present in a specific body of literature. According to Valentine, Pigott, and Rothstein (2010), meta-analyses offer a transparent and replicable way of quantitatively combining relevant data to come to one conclusion. Because of this, the authors argue that a minimum of two scholarly articles can provide the literature with a conclusion that other, less transparent methods of synthesizing data (e.g., systematic reviews) cannot. For this rationale, a meta-analysis was run on about half of the studies used in this review.

Studies were selected based on sample sizes and the type of effect sizes that were calculated. For example, some studies displayed means while others displayed risk ratios. In the relationship between CGNC and psychopathology, effect sizes refer to the extent to which psychopathology can be attributed to CGNC. The effects sizes to be calculated in this study were Pearson's r because the scope of the study was to assess the magnitude of the relationship between CGNC and adult psychopathology. Pearson's r ranges from -1 to 1, with -1 indicating a perfectly negative relationship, 1 indicating a perfectly positive relationship, and 0 indicating no relationship. To ensure reliability, coding was done by consensus. This involved working with one other research assistant to extract relevant data from each study separately and then working together to resolve any disagreements.

Data on the association between independent (CGNC) and outcome (psychopathology) variables were analyzed for five empirical studies. All studies were retrospective, and cross-sectional design, and sample sizes ranged from 50 to 371 individuals. The aggregate sample size

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of the studies was 1,115. Comprehensive Meta-Analysis (2014) software was used to calculate aggregate effect sizes. Effect sizes ranged from no correlation ($r = -0.03$) to a moderate correlation ($r = .38$). Because of the variability in effect and sample sizes, a random-effects meta-analysis was run. Results indicated there was a significant low correlation between CGNC and adult psychopathology ($r = .18$, $p = .01$, 95% CI = 0.049 to 0.311, $N = 1,115$). Tests for heterogeneity did not yield significant findings, which indicates that estimates of effect sizes were not inflated by exclusion of non-significant publications ($Q = 3.65$, $df = 4$, $p = 0.00$).

The overarching purpose of this study was to examine the association between cross-gendered behaviors during childhood and psychopathology during adulthood. It was hypothesized that CGNC would be significantly associated with adult psychopathology. Results of both the systematic and meta-analytic reviews support this hypothesis. However, when quantitatively synthesizing data from a selection of articles, it seems as though the relationship may not be as strong as originally hypothesized. Though these findings do not reflect a strong statistical association, they do provide the literature with additional knowledge regarding this association. It is possible that a meta-analysis looking at the strength of the effect biological sex on the association between CGNC and adult psychopathology. This may yield results that suggest a stronger association exists between CGNC and adult psychopathology for individuals who are biologically male. Similarly, taking other factors, such as actual or perceived sexual orientation status may also affect the magnitude of this association. It is also a possibility that a meta-analysis examining the association between current gender-role nonconformity and psychopathology among children and adolescents may find a stronger association. Moreover, the results of the analyses further emphasize the need for consistent and culturally-responsive ways

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of measuring certain constructs, due to differing results of the qualitative and quantitative analyses.

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Appendix B

Meta-analysis Coding Protocol

Study ID #: _____

Consensus Coders: _____

Year of Publication: _____

Title of Article_____
Author(s) of Article_____
Journal

Type of Publication [please check]

1. Journal Article
 2. Dissertation
 3. Conference Paper/Presentation
 4. Master's Thesis
 5. Unpublished/submitted manuscript
 6. Other: _____

Applicability [please check]

1. Applicable
 2. Not applicable

If not applicable for meta-analysis, explain:

Meta-Analysis Coding Form**Overall Sample**

Race [please check]

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1. Primarily African American (over 75% of sample)
 2. Primarily Caucasian (over 75% of sample)
 3. Primarily Asian (over 75% of sample)
 4. Primarily Other (over 75% of sample)
 5. Mix (no group over 75%)
 6. Cannot tell (does not specify, couldn't figure it out based on information provided)

Ethnicity [please check]

1. Primarily Hispanic origin (over 75% of sample)
 2. Primarily Non-Hispanic origin (over 75% of sample)
 3. Mix (no group over 75%)

Overall SES [please check]

1. Primarily low income (over 75% sample)
 2. Primarily middle income (over 75% sample)
 3. Primarily high income (over 75% sample)
 4. Mixed (no group over 75%)
 - a. mixed low/middle/high
 - b. mixed low/middle
 - c. mixed middle/high
 - d. mixed low/high 5. Cannot tell

Average Age of Participants [fill in]

Age Range:

Avg. age in years:

 Information not provided**Effect Size Samples**

Sex of Participants [please check]

1. Male
 2. Female

Sexual Orientation [please check]

1. LGBT
 2. Heterosexual

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- ___ 2. Physical abuse
- ___ 3. Sexual abuse
- ___ 4. Maltreatment/neglect

Effect Size Data

Sample Size: _____

Correlation value between childhood gender-role nonconformity and psychopathology: _____

Psychopathology:

Mean: _____

SD: _____

Childhood Gender-role Nonconformity:

Mean: _____

SD: _____

Effect Size: ____**95% CI:** ____