The mediating role of Identity Integration and Basic Psychological Needs in the Relationship between Sexual Orientation and Mental Health.

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Summary

Past research from the perspective of the Minority Stress Model shows that non-heterosexuals are at greater risk for the development of mental health problems because of minority related stressors, such as internalized homophobia, the introjection of negative societal attitudes about sexual minorities. From the perspective of the Self-Determination Theory, such introjection leads to basic psychological need frustration, hampering the natural process of identity integration. Difficulties in the integration of the identity could lead to internalizing metal health problems, like depression. Integrating both perspectives, this cross-sectional study in a sample of 178 participants (24.2% male, 71.3% female, 4.5 % other, mean age = 35.6) shows that the relation between sexual orientation and depression is mediated by identity integration and basic psychological need frustration and that the relationship between sexual orientation and self-esteem is mediated by identity integration and basic psychological need satisfaction. These findings implicate the importance of incorporating identity integration is the treatment of depression among members of the LGBTQ+ community.

Key words: Sexual Orientation, Depression, Self-Esteem, Identity Integration, Basic Psychological Needs, Minority Stress, LGBTQ

Introduction

"There's something deep inside of me. There's someone else I've got to be." Like no other, George Michael (1990, Freedom '90) expressed the feelings of confusion, rejection, and distress that frequently go hand in hand with belonging to a sexual minority. His struggles with identity, sexual orientation, and mental health were, and still are, relatable for many non-heterosexuals. Correspondingly, research has shown that non-heterosexuals are at greater risk for psychological disorders than heterosexuals (Herek & Garnets, 2007; Sanfort, Graaf, ten Have, Ransome, & Schnabel, 2014; Ross et al., 2018). According to the Minority Stress Model (MSM; Meyer, 2003), belonging to a sexual minority causes exposure to external minority related stressors, which leads to internalized homophobia, resulting in a heightened risk for mental health problems. The Self-Determination Theory (SDT) also speaks about the impact of the introjection of external values on mental health. SDT states that identity integration is energized by the satisfaction of basic psychological needs and that these psychological needs are frustrated when individuals do not fully integrate their identity (Ryan & Deci, 2017; Soenens & Vansteenkiste, 2011). High levels of identity integration lead to self-endorsed actions and volitional functioning, whereas low levels of identity integration are accompanied by a sense of pressure and alienation. Combining the MSM and the SDT could lead to more insight for both theories and a deeper understanding of the elevated risk of psychological disorders for non-heterosexuals. In the current cross-sectional study, the relationship between sexual orientation and mental health (i.e. depression and self-esteem) is investigated in regard to identity integration and basic psychological need satisfaction and frustration. If the findings indicate that identity integration explains the relationship between sexual orientation and depression, the treatment of depressive symptoms in non-heterosexuals should incorporate the support of identity integration.

Sexual Orientation

Depressive symptoms among non-heterosexuals are of interest because of the heightened prevalence compared to heterosexuals. In a systematic review, Herek and Garnets (2007) have stated that non-heterosexuals are at greater risk for mood and anxiety disorders. In the Netherlands, major depressive disorder is, in comparison to their heterosexual counterparts, two times more prevalent in non-heterosexual women and four times more prevalent in non-heterosexual men (Sandfort et al., 2014). A meta-analysis in 30 West-European and North-American samples, estimated the lifetime prevalence of suicide attempts to be seventeen percent among non-heterosexuals, compared to four percent among heterosexuals (Hottes, Bogaert, Rhodes, Brennan, & Gesink, 2016).

Minority Stress Model

Providing a framework for these findings, the MSM (Meyer, 2003) states that members of disadvantaged social groups experience more challenging conditions, such as prejudice, discrimination, racism, sexism, and homophobia. The MSM differentiates between distal and proximal minority stress processes. Distal minority stress processes are defined as external, objective stressors, like antigay violence and discrimination. Proximal minority stress processes are more subjective, internal, and related to self-identity, like expectations of negative regard and rejections from members of the dominant (heterosexual) culture, concealment of sexual minority identity, and the internalization of perceived stigma about sexual minorities. The internalization of perceived stigma could lead to internalized homophobia, which is defined by Meyer and Dean (1998) as "the gay person's direction of negative social attitudes toward the self, leading to a devaluation of the self and resultant internal conflicts and poor self-regard".

In a meta-analysis of 31 studies with non-heterosexual samples, Newcomb and Mustanski (2010) proclaim that higher levels of internalized homophobia is associated with more internalizing mental health problems, like anxiety and depression. Research by Kuyper and Fokkema (2011) shows that the MSM is relevant in the Netherlands as well, with non-heterosexuals who encountered more distal and proximal stressors, reporting more mental health problems.

Self-Determination Theory

SDT provides a theory about identity integration (Soenens & Vansteenkiste, 2011). The theory is based in Erikson's (1968) identity development research, conceptualizing identity as a combination of personal characteristics, values, life-roles, and aspirations that people use to define themselves, including among others gender, ethnicity, and sexuality.

In the SDT, the underlying mechanism for psychological growth and psychopathology are the same: basic psychological needs. Summarized, satisfaction of the basic psychological needs leads to psychological growth, whereas frustration of the same psychological needs could lead to psychopathology (Vansteenkiste & Ryan, 2013). SDT conceptualizes three psychological needs to be vital for adaptive functioning (Ryan & Deci, 2017). The need for competence is the natural tendency towards growth and the experience of effectiveness and mastery, and when satisfied one experiences a sense of expertise (Ryan & Deci, 2017). Competence frustration comes with a sense of ineffectiveness or helplessness (Vansteenkiste, Ryan, & Soenens, 2020). The need for relatedness is the experience of warmth and care, and is satisfied by connection to others (Ryan & Deci, 2017). Relatedness frustration is accompanied by feelings of social exclusion and loneliness (Vansteenkiste et al., 2020). The need for

autonomy is the natural tendency towards self-regulation and integration, and the experience of volition and willingness (Ryan & Deci, 2017). Autonomy satisfaction comes with a sense of integrity because one's feelings, thoughts, and actions are self-endorsed (Vansteenkiste et al., 2020). Autonomy frustration comes with feelings of pressure and internal conflict (Vansteenkiste et al., 2020).

According to SDT, identity integration is energized by need-satisfaction, like eating is energized by satiety (Soenens & Vansteenkiste, 2011). The needs of individuals will be more satisfied when they integrate their identity and therefore individuals are motivated to fully integrate different aspects of their identity into one harmonious self-concept (Soenens & Vansteenkiste, 2011). On the other hand, needs of individuals will be more frustrated when their identity is based on introjected values. Introjection occurs when individuals make identity-relevant choices based on internally pressuring forces, like avoiding feelings of shame or craving for a sense of self-worth (Erikson, 1968). Introjection may cause inner conflict (Soenens & Vansteenkiste, 2011). SDT assumes that identity integration does not take place in a social vacuum, but rather occurs in a continuous interaction with the social environment, that either fosters or undermines the process of identity integration (Ryan, Deci, & Vansteenkiste, 2016). For clarity and as stated before, internalized homophobia is in the MSM defined as the introjection of negative societal attitudes about sexual minorities toward the non-heterosexual's self, resultant in inner conflict and low self-esteem (Meyer & Dean, 1998).

Internalized Homophobia and Need Frustration

Frost and Meyer (2009) examined the relationship between internalized homophobia and relationship quality (relatedness) and concluded that internalized homophobia in non-heterosexuals was associated with greater relationship problems. In a study by Greene and Britton (2012), internalized homophobia was related to personal mastery (competence), with higher internalized homophobia resulting in lower personal mastery.

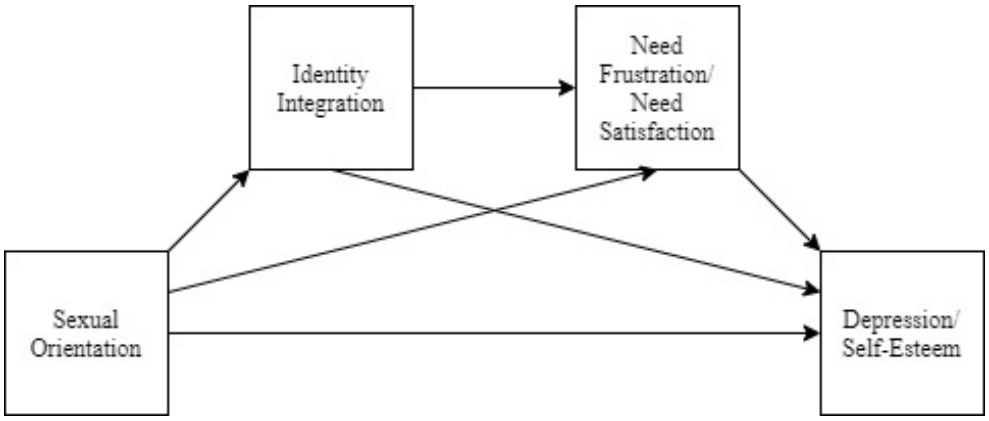
Non-heterosexuals higher in internalized homophobia are prone to fear rejection from others based on their sexual orientation and are therefore less likely to disclose their sexual orientation (autonomy frustration; Pachankis, Goldfried, & Ramrattan, 2008). Research shows that concealing one's sexual orientation due to fear of rejection is associated with shame, guilt, hypervigilance, social isolation, and a negative self-view, and could result in internalizing mental health problems (Pachankis, 2007). Autonomy support fosters sexual minority disclosure and wellness among non-heterosexuals with high internalized homophobia (Ryan, ly, Weinstein, & Rahman, 2017).

Sexual Minority Identity Integration and Need Satisfaction

Non-heterosexuals who integrate their sexual minority status into their identity experience less difficulties in satisfying their basic psychological needs and experience less psychological problems (Meyer, 2003; Meyer & Oulette, 2009; Levitt et al., 2016). Research showed that homosexual men who report a high sense of belonging to the gay community, report a higher sense of belonging to the general community and show less depressive symptoms (McLaren, Jude, & McLachlan, 2008). Moreover, non-heterosexuals, who integrate a collective sexual minority identity into their own identity, participate more actively in the sexual minority community, facilitating experiences of relatedness, in turn resulting in less psychological distress (Morris, Waldo, & Rothblum, 2001). This effect could also be attributed to the additional resources for coping (competence) that the sexual minority community has to offer (Herek & Garnets, 2007).

Figure 1

The Theoretical Serial Mediation Model.



Current Study

Research shows that non-heterosexuals report more problems with identity integration because of internalized homophobia, and that these problems elevate the risk for depressive symptoms (Herek & Garnets, 2007; Pachankis, 2007; Meyer, 2003). In the current study, two serial mediation models are tested (see figure 1). In the first serial mediation model, the direct effect is the relationship between sexual orientation and depressive symptoms. It is expected that sexual orientation is related to depression, with non-heterosexuals reporting more depressive symptoms than heterosexuals (hypothesis 1a). The indirect effect in this model consists of two mediators: identity integration and basic psychological need frustration. It is expected that the relationship between sexual orientation and depression is fully mediated by

identity integration and need-frustration, with non-heterosexuals reporting less identity integration and more need-frustration than heterosexuals, resulting in more depressive symptoms (hypothesis 1b).

Bruce, Harper and Bauermeister (2016) found that identity integration increases resilience against minority stress and buffers the effects of minority stress on depressive symptoms and self-esteem by decreasing internalized homophobia in non-heterosexual male youth. In the second serial mediation model, the direct effect is the relationship between sexual orientation and self-esteem. It is expected that sexual orientation is related to self-esteem, with non-heterosexual reporting less self-esteem than heterosexuals (hypothesis 2a). The indirect effect of the second model consists of two mediators: identity integration and basic psychological need satisfaction. It is expected that the relationship between sexual orientation and self-esteem is fully mediated by identity integration and need satisfaction (hypothesis 2b).

Methods

Procedure

The questionnaires were entered into the online application Qualtircs, which is used to compile and spread surveys (Snow & Mann, 2013). The participants were recruited on social media, like Twitter and Facebook. The data was collected from May 20th until June 7th 2020. Before participants could respond to the survey, they were provided with information about the current study and had to confirm the informed consent. After giving consent, they were first asked for their demographic information, after which participants could define their sexual orientation and fill in four questionnaires. After filling in the survey, participants were thanked for their participation and given the contact information of the involved researchers and supervisors.

Participants

Participants that did not give consent (*n = 59* from the 241) or did not fill in all the questionnaires are excluded from the data-analysis (*n* = 4 from the 241). Through the function forced response, there were no random missing data. The sample included 178 participants, of which 43 were male, 127 were female, and 8 participants identified neither male, nor female (e.g., “queer” and “non-binary”). On average, participants of the sample were 35.6 years old (*SD* = 12.3, Range 18-69). Of the participants, 75 were heterosexual and 103 were non-heterosexual. In this sample, heterosexuals (*M* = 40.4, *SD* = 11.8) were significantly older than

non-heterosexuals (M = 32.1, SD = 11.5) ($t(176) = 4.682$, $p < .001$). Both groups did not significantly differ in gender (χ^2 (2) = 1.83, p = .401).

Instruments

Sexual Orientation. Sexual orientation was divided into three dimensions: Sexual identification, sexual attraction, and sexual behavior (Institute of Medicine, 2011; Wolff, Wells, Ventura-DiPersia, Renson, & Grov, 2017). Participants were labeled as non-heterosexual when their answer on one of the dimension was considered non-heterosexual.

Sexual identification was measured with the question: "I identify as:", option being "Heterosexual", "Gay", "Lesbian", "Bisexual", and "Differently, namely". Participants who chose the last option were able to describe their identification (e.g., "Pansexual" and "Asexual").

Sexual attraction was measured with the question "I feel sexually attracted to", options being "Only people of the other sex", "Only people of the same sex", "People of the same and the other sex", "Differently, namely:". Participants who chose the last option were able to describe their sexual attraction (e.g., "Nobody" and "I'm non-binary").

Sexual behavior was measured with the question: "During my lifetime, I have had sexual intercourse with". The answer options were: "Only people of the other sex.", "Only people of the same sex", "People of the same and the other sex", "I haven't had sex", and "Differently, namely:". In the last answer option participants could elaborate on their sexual behavior if the other options were not sufficient (e.g., "Consensually only with same sex" and "My partner is non-binary").

Basic Psychological Need Satisfaction and Frustration Scale (BPNSNF). The BPNSNF is a self-report questionnaire that is used to measure basic psychological need satisfaction and frustration, a scale which has been found to be a reliable and valid across studies and cultures (Chen et al., 2015). The BPNSNF consists of twenty-four items divided into six categories, each containing four items. The six categories are the need-satisfaction and need-frustration of autonomy, competence and relatedness. An example item, derived from the autonomy satisfaction category, is "I feel a sense of choice and freedom in the things I undertake". An example item, derived from the autonomy frustration category, is "Most of the things I do feel like I have to". All items are rated on a five-point Likert scale ranging from "1 = Not true at all" to "5 = Completely true". In the current study, need-satisfaction is calculated by taking the mean of the individual total scores of the three need-satisfaction categories (M = 13.8, SD = 2.8, α = .90). Need-frustration is calculated by taking the mean of the three need-frustration categories (M = 11.1, SD = 3.1, α = .91).

Identity Integration. Identity integration was measured using a subscale of the Multidimensional Self-Esteem Inventory (MSEI-II; O'Brien & Epstein, 1988). The subscales of the MSEI have been found to be reliable and valid measurements (Hillmann, Brooks, & O'Brien, 1991). The MSEI-II is a self-report questionnaire, which measures the clear sense of identity, the sense that somebody knows themself (Droney & Brooks, 1993). The MSEI-II consists of ten items, rated on a five-point Likert scale ranging from "1 = Completely agree" to "5 = Completely disagree". An example item is "In general, I know who I am and where I am headed in my life". Identity integration scores were calculated by adding the outcomes of the ten items (M = 29.3, SD = 8.3, α = .87)

Center for Epidemiologic Studies Depression (CES-D-12). The CES-D-12 is a self-report questionnaire that is used to measure depressive symptoms during the last week (Poulin, Hand, & Boudreau, 2005). The twelve-item CES-D-12 is a shortened version of the twenty-item CES-D, developed for the use in studies of the epidemiology of depression. Poulin et al. (2005) showed that the CES-D-12 has acceptable reliability and validity for the purpose of research. An example item is "During the last week I felt that I was just as good as other people". The items of the CES-D-12 are rated on a four-point Likert scale ranging from "1 = Rarely or none of the time (less than one day)", "2 = Some of the time (1 to 2 days)", "3 = Occasionally (3 to 4 days)", to "4 = Most or all of the time (5 to 7 days)". Depression scores were calculated by adding the outcomes of the twelve items (M = 26.4, SD = 8.4, α = .91)

Rosenberg Self-Esteem Scale (RSE). To indicate psychological well-being self-esteem is measured using the RSE, a ten-item self-report questionnaire used to measure global self-esteem (Rosenberg, 1965). The RSE has been tested for reliability and validity in many different settings and languages and has been found to be acceptable (Tinakon & Nahathai, 2012). An example item is: "On the whole I am satisfied with myself". The items are rated on a four-point Likert scale, ranging from "1 = Completely agree" to "4 = Completely disagree". The RSE is scored by adding the outcomes of the ten items (M = 26.2, SD = 7.3, α = .94).

Data-Analysis

The data-analysis is conducted using the programs IBM SPSS 25 and PROCESS (Hayes, 2013). For exploration, the correlations between all measured variables are obtained. T-tests were conducted to investigate the differences between heterosexuals and non-heterosexuals on the measured variables. To test the hypotheses, direct and indirect effects of two serial mediation models are calculated, using PROCESS (see Figure 1; Hayes, Preacher, & Myers, 2010). In the first serial mediation model sexual orientation is the dependent variable, identity integration and need-frustration are the mediators, and depression is the outcome

variable. In the second serial mediation model sexual orientation is the dependent variable, identity integration and need-satisfaction are the mediators, and self-esteem is the outcome variable. Age was in both models used as covariate. Bootstrapping is implemented to obtain bias-corrected 95% confidence intervals for making statistical conclusions about the three specific effects and the total indirect effect (Preacher & Hayes, 2008). As recommended by Hayes (2013), all the path coefficients and regressions are in unstandardized form, so the results could be directly compared to studies using the same measurements.

Results

Descriptive Statistics

A summary of the descriptive statistics for heterosexuals and non-heterosexuals is provided in Table 1. Correlational analyses indicated that age was significantly correlated to depression (r = -.20, p < .01), need-frustration (r = -.20, p < .01), self-esteem (r = .19, p < .05), and identity integration (r = .20, p < .01). Independent *t*-tests showed no gender-differences in the studied variables. Following these results, age was used as a covariate in the mediation analyses. Independent *t*-tests were used to examine the differences between heterosexuals and non-heterosexuals (see Table 1). As expected, heterosexuals and non-heterosexuals significantly differed in depression, identity integration, self-esteem, and need frustration. For identity integration a medium effect was found, the other effects were small. Other than expected, heterosexuals and non-heterosexuals did not significantly differ in need satisfaction.

Table 1

Descriptive Statistics and Independent t-Test for Heterosexuals and Non-Heterosexual.

	Heterosexuals (N=75)		*Non-Heterosexuals (N=103)*				
	M	*SD*	*M*	*SD*	*t(176)*	*p*	*d*
Depression	24.5	8.3	27.7	8.3	-2.60	.010	-0.39
Identity integration	31.7	8.7	27.5	7.5	3.42	.001	0.52
Self-Esteem	27.7	7.5	25.1	7.0	2.42	.017	0.37
Need Satisfaction	14.2	3.0	13.5	2.7	1.69	.092	0.26
Need Frustration	10.3	3.0	11.7	3.1	-2.84	.005	-0.43

Note. d represents Cohen's *d.* Small effect, *d* > .02. Medium effect, *d* > .05. Large effect, *d* > .08.

Correlational Analyses

The correlations between the variables are provided in Table 2. All variables correlated highly with each other, which could indicate multicollinearity in the models.

Table 2

Pearson's Correlations.

Measure	1	2	3	4
1. Depression	---			
2. Identity Integration	-.74*	---		
3. Self-Esteem	-.79*	.77*	---	
4. Need Satisfaction	-.73*	.78*	.82*	---
5. Need Frustration	.83*	-.81*	-.84*	-.85*

Note *$p < .01$, two-tailed. $N = 178$.

Serial Mediation Models

The presence of multivariate outliers was tested by calculating the distance of Mahalanobis and no outliers were found. To test for multicollinearity the Variance Inflation Factor (VIF) was used. Values under 5.0 for VIF are considered reliable cut-off scores for the absence of multicollinearity (Field, 2009). The VIF values were measured, in the first model sexual orientation (VIF = 1.07), identity integration (VIF = 2.91), and need-frustration (VIF = 2.85) and in the second model sexual orientation (VIF =1.08), identity integration (VIF = 2.69), and need-satisfaction (VIF = 2.56). These analyses indicated the absence of problematic multicollinearity.

Depression. Table 3 shows the estimates for the total and specific indirect effects on the relationship between sexual orientation and depression, as mediated by identity integration and need-frustration. In this model, age was used as covariate. The model accounted for 5.6% of the variance of depression ($p < .05$). The total effect ($b = 2.43$, $p = .068$) was marginally significant and the direct effect ($b = -0.10$, $p = .889$) was non-significant.

A single mediation analysis showed that the relationship between sexual orientation and depression is fully mediated by the indirect effect via identity integration ($b = 2.59$, 95% CI [0.66, 6.63], see Figure 2). In the serial mediation model, the total indirect effect of identity integration and need-frustration on the relationship between sexual orientation and depression was significant ($b = 2.53$, 95% CI [0.33, 4.79]). There were two significant indirect effects. The first significant indirect effect (IND1) was the effect via only identity integration ($b = 0.68$).

The second indirect effect (IND2) was the effect via both identity integration and need frustration (*b* = 1.90). The two indirect effects significantly differed from each other, with the effect via identity integration and need frustration being bigger than the effect via only identity integration (*IND1-IND2* = -1.20, 95% CI [-2.88, -0.15]).

Table 3

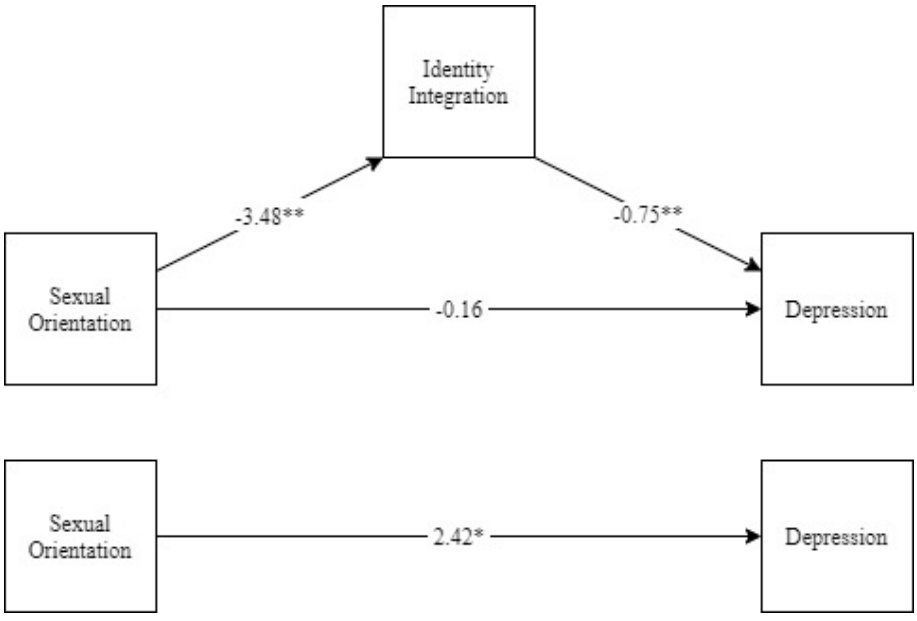
Estimates for the Effects in the Relationship between Sexual Orientation and Depression, Mediated by Identity Integration and Basic Psychological Need Frustration.

	Estimate	95% CI_{low}	95% CI_{high}
Indirect Effect (SO → II → DEP)	0.68**	0.08	1.56
Indirect Effect (SO → NF → DEP)	-0.06	-1.14	1.02
Indirect Effect (SO → II → NF → DEP)	1.90**	0.43	3.54
Total Indirect Effect	2.53**	0.33	4.79
Direct Effect	-0.10	-1.57	1.36
Total Effect	2.43*	-0.18	5.03

Note. *p < .10, **p < .05. N = 178. SO = Sexual Orientation, II = Identity Integration, NF = Basic Psychological Need Frustration, DEP = Depression.

Figure 2

Single Mediation Model for the Relationship between Sexual Orientation and Depression, mediated by Identity Integration.

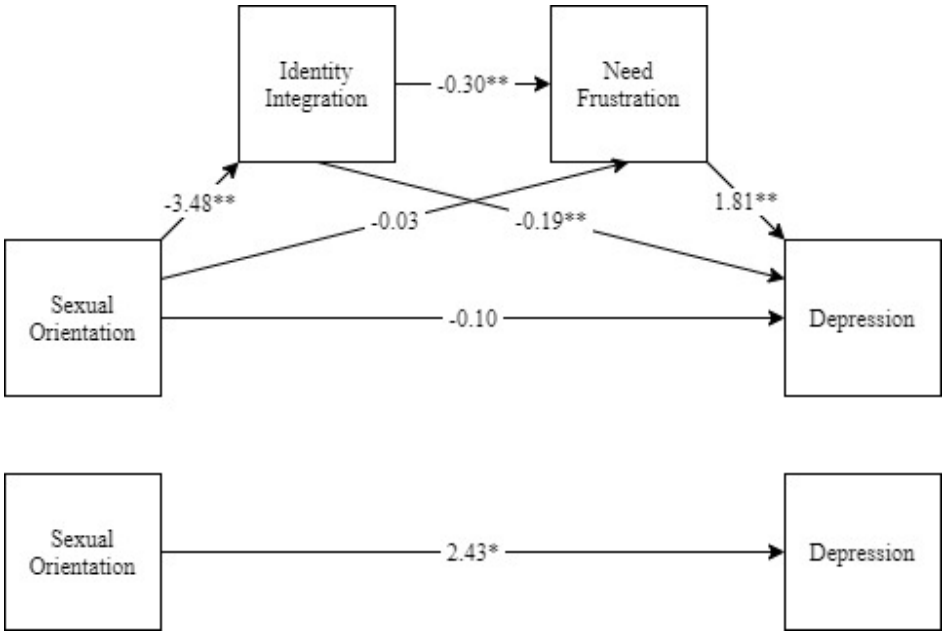


Note. * p < .10, ** p < .05. N = 178.

In Figure 3 the estimates of the path coefficients are shown. The path coefficient from need-frustration to depression is significant (b = -0.19, p < .01). The path coefficients of the indirect effect from identity integration to depression via need-frustration are significant (b = -0.30, p < .01; b = 1.81, p < .01). These finding indicate that the relationship between identity integration and depression in this model is partly mediated by need-frustration. Taken together, these results indicate that the relationship between sexual orientation and depression is fully mediated by both identity integration and need frustration.

Figure 3

Serial Mediation Model for the Relationship between Sexual Orientation and Depression, mediated by Identity Integration and Need-Frustration



Note. * p < .10, ** p < .05. N = 178.

Self-Esteem. The model tested examined the relationship between sexual orientation and self-esteem with identity integration and need satisfaction as mediators. In Table 4 the estimates of the effects are shown. The model accounted for 7.7% of the variance of self-esteem (p < .05). The total effect (b = -1.94, p = .093) was marginally significant and the direct effect (b = 0.37, p = .552) was non-significant.

A single mediation analysis showed that the indirect effect via identity integration fully mediated the relationship between sexual orientation and self-esteem (b = -2.35, 95% CI [-4.26, -0.55], see Figure 3). In the serial mediation model, the total indirect effect was non-significant

(*b* = -1.90, 95% CI [-3.88, 0.05]). Preacher and Hayes (2008) state that specific indirect effects should still be examined when the total indirect is non-significant, because suppression effects may obscure the total indirect effect. There were two significant indirect effects. The first significant indirect effect (IND1) was the effect via identity integration (*b* = -0.98, 95% CI [-1.97, -0.21]). The second significant indirect effect (IND2) was the effect via identity integration and need satisfaction (*b* = -1.38, 95% CI [-2.56, -0.33]). The estimate of the effects of IND1 and IND2 did not significantly differ (IND1-IND2 = 0.40, 95% CI [-0.37, 1.49]).

Table 4

Estimates for the Total and Specific Indirect Effects for Relationship between Sexual Orientation and Self-Esteem, Mediated by Identity Integration and Basic Psychological Need Satisfaction.

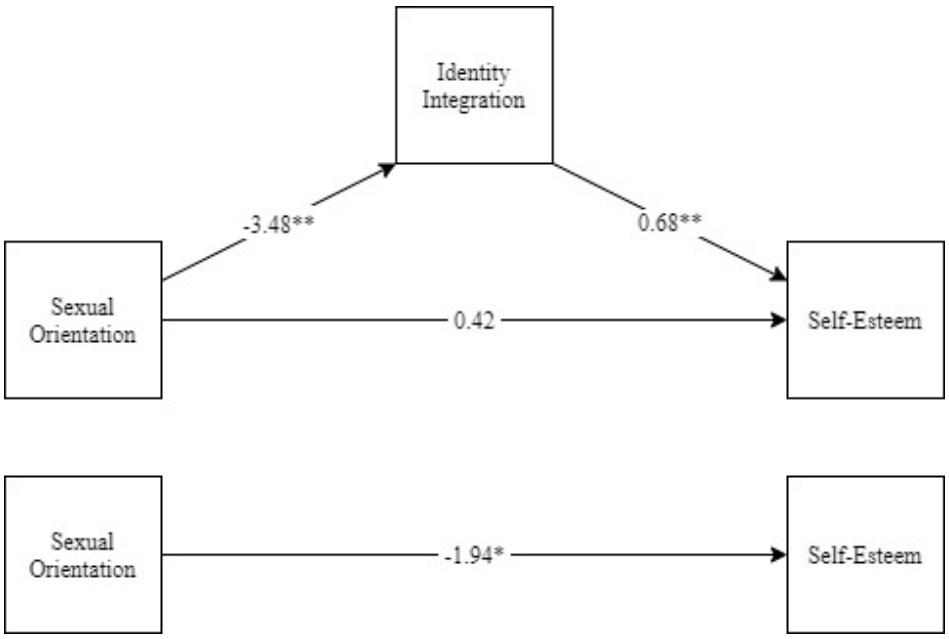
	Estimate	95% CI_{low}	95% CI_{high}
Indirect Effect (SO → II → SE)	-0.98**	-1.97	-0.21
Indirect Effect (SO → NS → SE)	0.46	-0.34	1.31
Indirect Effect (SO → II → NS → SE)	-1.38**	0.43	3.54
Total Indirect Effect	-1.90	-3.88	0.05
Direct Effect	-0.04	-1.30	1.22
Total Effect	-1.94*	-4.21	0.33

Note. *$p < .10$, **$p < .05$. $N = 178$. SO = Sexual Orientation, II = Identity Integration, NS = Basic Psychological Need Satisfaction, SE = Self-Esteem.

In Figure 4 the estimates of the path coefficients of the serial mediation model are shown. The path coefficient form identity integration to self-esteem was significant (*b* = 0.28, $p < .01$). The path coefficients from the indirect effect from identity integration to self-esteem via need-satisfaction were both significant (*b* = 0.27, $p < .01$; b = 1.45, $p < .01$). These findings suggest that in this model the effect between identity integration and self-esteem is partly mediated by need-satisfaction. Together, these findings indicate that the relationship between sexual orientation and self-esteem is fully mediated by both identity integration and need satisfaction.

Figure 3

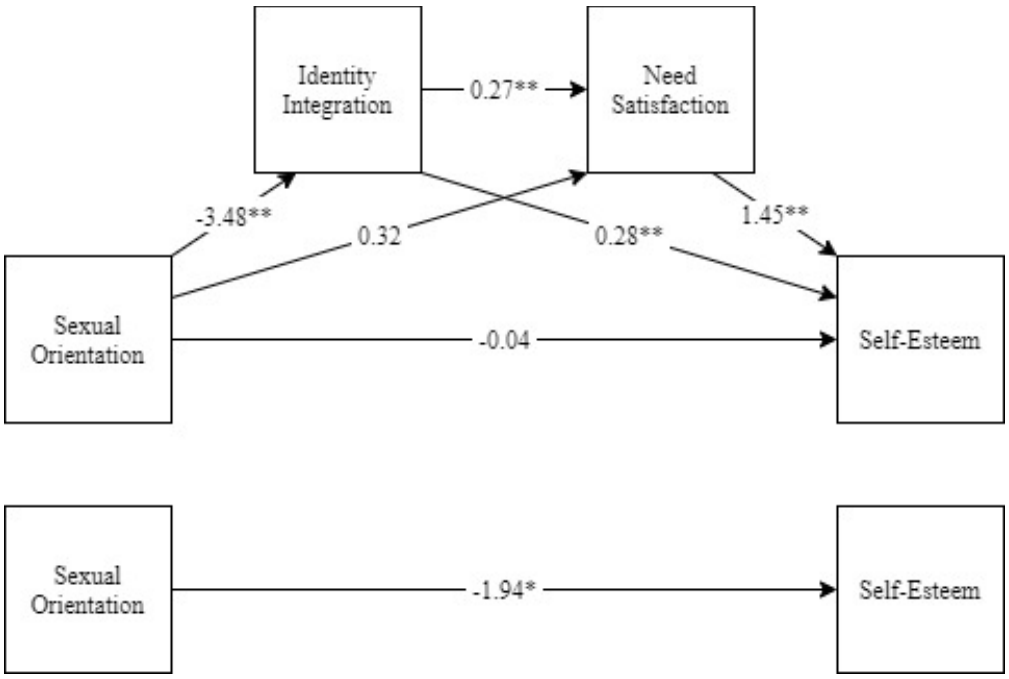
Single Mediation Model for the relationship between Sexual Orientation and Self-Esteem, mediated by Identity Integration.



Note. * $p < .10$ ** $p < .05$. $N = 178$.

Figure 4

Serial Mediation Model for the Relationship between Sexual Orientation and Self-Esteem, mediated by Identity Integration and Basic Psychological Need Satisfaction.



Note. * $p < .10$ ** $p < .05$. $N = 178$.

Discussion

According to the MSM, minority stress leads to introjection of negative societal attitudes (internalized homophobia) and this causes negative mental health outcomes (Meyer, 2003). On the other hand, the MSM states that the integration of the minority identity protects non-heterosexuals from the negative impact of minority stress on mental health (Meyer, 2003). The SDT states that identity integration is energized by need satisfaction and individuals' needs will be more satisfied when they integrate their identity, leading to psychological growth (Soenens & Vansteenkiste, 2011). In the SDT, introjection entails partially internalizing identity commitments that are different from one's own values, causing internal conflict and need frustration (Soenens & Vansteenkiste, 2011). In the current study the MSM was combined with the SDT to further investigate the relationship between sexual orientation and mental health.

In the current study, the first hypothesis was that the relationship between sexual orientation and depression is fully mediated by identity integration and need-frustration. Fully supporting this hypothesis, results indicate that non-heterosexuals report more depressive symptoms, and that identity integration and need-frustration are underlying mechanisms in the relationship between sexual orientation and depression. The serial mediation model revealed that identity integration alone mediated the relationship between sexual orientation and depressive symptoms, whereas need-frustration did not function as a single mediator. This underlines that identity integration is a more proximal predictor for the development of mental health problems in non-heterosexuals. The MSM states that internalized homophobia is a proximal minority stressor, and that internalized homophobia is the cause of the heightened prevalence of internalizing psychopathology in non-heterosexuals (Meyer, 2003). The findings of the current study do support this theory. Previous research found that internalized homophobia is associated with need-frustration (Frost and Meyer, 2009; Greene and Britton, 2012; Pachankis et al., 2008; Pachankis, 2007; Ryan et al., 2017). In the current study, the partial mediation of need-frustration in the relationship between identity integration and depressive symptoms supports the association between internalized homophobia and need-frustration, and suggests that need-frustration may be the underlying mechanism in the relationship between a lack of identity integration (e.g. as a correlate of internalized homophobia) and depressive symptoms in non-heterosexuals.

The second hypothesis is that the relationship between sexual orientation and self-esteem is fully mediated by identity integration and need-satisfaction. Supporting this hypothesis, findings indicate that non-heterosexuals report less self-esteem, and that identity integration and need-satisfaction have an explanatory role in this relationship. Again in line

with the MSM, the serial mediation model revealed that identity integration, and not need-satisfaction, mediated the relationship between sexual orientation and self-esteem, indicating that identity integration is a more proximal predictor of a low self-esteem in non-heterosexuals than need satisfaction. The SDT states that identity integration is energized by basic psychological needs, meaning that indiviuals are prone to integrate their identity because it will satisfy their basic psychological needs and lead to flourishment (Soenens & Vansteenkiste, 2011). Therefore, the finding that need-satisfaction partially mediates the relationship between identity integration and self-esteem is in line with the SDT.

Taken together, the results of the current study imply that problems with identity integration are a risk factor for the development of internalizing mental health problems and lowered self-esteem in non-heterosexuals. The results indicate that the satisfaction and frustration of basic psychological needs are the underlying mechanism in the relationship between identity integration and mental health in non-heterosexuals.

Implications

Stressing the importance of the MSM in the Netherlands (e.g., Keyper and Fokkema, 2011), findings of the current study suggest that proximal stressors still impact the mental health of non-heterosexuals, having their clinical implications. In the treatment of internalizing psychopathology in non-heterosexuals, it could be beneficial to select a therapy that targets identity integration, like schema therapy. Early maladaptive schemas are developed in childhood from an interplay between the child's temperament and damaging experiences with parents, peers, and siblings (Young, Klosko, & Weishaar, 2003). Parental rejection of a sexual orientation may lead to heightened sensitivity to future gay-related rejection, and it is suggested that therapists could deconstruct these rejection sensitive schemas by providing the client with positive experiences with the heterosexual majority (Pachankis, Goldfried, & Ramrattan, 2008). Rubino, Case, and Anderson (2018) examined the protective role of pride in the relationship between internalized homophobia and depression, and suggested targeting self-esteem, minority-collective self-esteem, and self-disclosure as possible interventions for mental health problems in non-heterosexuals. Weinstein, Legate, and Khabbaz (2016) provided refugees who endured long-lasting frustration of their basic psychological needs with a one-week intervention for depression based on the principles of the SDT. In this interventions participants were encouraged to make choices in their day-to-day life that satisfied their basic psychological needs and leaded to need-crafting environments. The one-week intervention improved depression symptoms and could therefore be of inspiration to conducting an intervention focused on need-crafting for the internalizing mental health problems in non-heterosexuals.

An implication for future research is an experimental study in which the effectiveness of a therapy that targets identity integration (e.g., schema therapy) is compared to the effectiveness of a therapy that does not explicitly target identity integration (e.g., cognitive behavioral therapy). It would be expected that the therapy that targets identity integration would reduce internalized homophobia, and will therefore be more effective in treating internalizing psychopathology in non-heterosexuals.

Limitations

The current study had multiple limitations. Firstly, a cross-sectional design was used, which makes it impossible to derive conclusions about causality and directionality of the obtained relationships. Soenens and Vansteenkiste (2011) described the reciprocal nature of the relationship between identity integration and need satisfaction, wherein exploration of the identity predicts need satisfying choices, and need supportive environments and need-satisfaction foster exploration and integration of different aspects of one's identity. Longitudinal research on the relationship of identity integration and self-determination in non-heterosexuals might be of interest to examine the directionality in the relationship between internalized homophobia, identity integration, and frustration or satisfaction of basic psychological needs.

Secondly, because the differences between heterosexuals and non-heterosexuals were studied, differences in identity integration was used to indicate the impact of proximal minority stressors, like internalized homophobia. Internalized homophobia is defined as the internalized negative societal attitudes towards the non-heterosexual person's self, and could therefore not be measured in heterosexuals (Meyer & Dean, 1998). In the current study, the correlation between internalized homophobia and identity integration is not measured. Using a sample of only non-heterosexuals could provide more information about the relationship between distal and proximal minority stressors and identity integration.

Conclusions

In this study, the MSM and SDT were combined to provide more information about the heightened prevalence of internalizing mental health problems in sexual minorities. The results indicate that both identity integration and satisfaction or frustration of psychological needs are underlying mechanisms in the relatively high prevalence of depression and lower self-esteem in non-heterosexuals. The difference in identity integration between non-heterosexuals and heterosexuals indicates that internalized homophobia is still a concern for many non-heterosexuals. Taken together, the findings point out the importance of diminishing the negative societal attitudes about non-heterosexuals and fostering basic psychological need supportive

environments for non-heterosexuals in the fight against (internalized) homophobia and internalizing psychopathology in non-heterosexuals.

References

Bruce, D., Harper, G. W., & Bauermeister, J. A. (2015). Minority stress, positive identity development, and depressive symptoms: Implications for resilience among sexual minority male youth. *Psychology of Sexual Orientation and Gender Diversity*, *2*(3), 287.

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., … Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, *39*(2), 216–236.

Droney, J. M., & Brooks, C. I. (1993). Attributions of self-esteem as a function of duration of eye contact. *The Journal of Social Psychology*, *133*(5), 715-722.

Erikson, E. H. (1968). *Identity: Youth and crisis*. W. W. Norton.

Field, A. (2009). *Discovering statistics using IBM SPSS Stastics: And sex and drugs and rock'n'roll*. Sage.

Frost, D. M., & Meyer, I. H. (2009). Internalized homophobia and relationship quality among lesbians, gay men, and bisexuals. *Journal of Counseling Psychology*, *56*(1), 97-109.

Greene, D. C., & Britton, P. J. (2012). Stage of sexual minority identity formation: The impact of shame, internalized homophobia, ambivalence over emotional expression, and personal mastery. *Journal of Gay & Lesbian Mental Health*, *16*(3), 188-214.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: Methodology in the Social Sciences*. The Guilford Press.

Hayes, P., Preacher, K. J., & Myers, T. (2010). Mediation and the estimation of indirect effects in political communication research. In Bucy, E. P., & Holbert, R. L. (Eds.), *Sourcebook for political communication research: Methods, measures, and analytical techniques* (pp. 434-465). Routledge.

Herek, G. M., & Garnets, L. D. (2007). Sexual orientation and mental health. *Annual Reviews Clinical Psychology*, *3*, 353-375.

Hillmann, R. B., Brooks, C. I., & O'Brien, J. P. (1991). Differences in self-esteem of college freshmen as a function of classroom seating-row preference. *The Psychological Record, 41*(3), 315-320.

Hottes, T. S., Bogaert, L., Rhodes, A. E., Brennan, D. J., & Gesink, D. (2016). Lifetime prevalence of suicide attempts among sexual minority adults by study sampling strategies: A systematic review and meta-analysis. *American journal of public health, 106*(5).

Institute of Medicine (2011). *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. National Academies Press.

Kuyper, L., & Fokkema, T. (2011). Minority stress and mental health among Dutch LGBs: examination of differences between sex and sexual orientation. *Journal of Counseling Psychology*, *58*(2), 222-233.

Levitt, H. M., Horne, S. G., Herbitter, C., Ippolito, M., Reeves, T., Baggett, L. R., ... & Geiss, M. (2016). Resilience in the face of sexual minority stress: "Choices" between authenticity and self-determination. *Journal of Gay and Lesbian Social Services*, *28*(1), 67-91.

McLaren, S., Jude, B., & McLachlan, A. J. (2008). Sense of belonging to the general and gay communities as predictors of depression among Australian gay men. *International Journal of Men's Health, 7*(1), 90-99.

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological bulletin*, *129*(5), 674-697.

Meyer, I. H. , & Ouellette, S. C. (2009). Unity and purpose at the intersections of racial/ethnic and sexual identities. In P. L. Hammack & B. J. Cohler (Eds.), *The story of sexual identity: Narrative perspectives on the gay and lesbian life course* (pp. 79-106). Oxford University Press.

Meyer, I. H., & Dean, L. (1998). Internalized homophobia, intimacy, and sexual behavior among gay and bisexual men. In Herek, G. M. (Eds.), *Stigma and Sexual Orientation: Understanding Prejudice against Lesbians, Gay Men, and Bisexuals* (pp. 160-186). SAGE Publications.

Michael, G. (1990). Freedom '90. On *Listen without prejudice*. Epic.

Morris, J. F., Waldo, C. R., & Rothblum, E. D. (2001). A model of predictors and outcomes of outness among lesbian and bisexual women. *American Journal of Orthopsychiatry, 71*(1), 61-71.

Newcomb, M. E., & Mustanski, B. (2010). Internalized homophobia and internalizing mental health problems: A meta-analytic review. *Clinical Psychology Review, 30*(8), 1019-1029.

O'Brien, E. J., & Epstein, S. (1988). *MSEI: The Multidimensional Self-Esteem Inventory: Professional manual*. Psychological Assessment Resources.

Pachankis, J. E. (2007). The psychological implications of concealing a stigma: A cognitive-affective-behavioral model. *Psychological Bulletin*, 133(2), 328-345.

Pachankis, J. E., Goldfried, M. R., & Ramrattan, M. E. (2008). Extension of the rejection sensitivity construct to the interpersonal functioning of gay men. *Journal of Consulting and Clinical Psychology, 76*(2), 306-317.

Pachankis, J. E., Goldfried, M. R., & Ramrattan, M. E. (2008). Extension of the rejection sensitivity construct to the interpersonal functioning of gay men. *Journal of Consulting and Clinical Psychology*, *76*(2), 306-317.

Poulin, C., Hand, D., & Boudreau, B. (2005). Validity of a 12-item version of the CES-D used in the National Longitudinal Study of Children and Youth. *Chronic Diseases in Canada, 26*(2-3), 65-72.

Preacher, K. J., & Hayes, A. F. (2008). Contemporary approaches to assessing mediation in communication research. In Hayes, A. F., Slater, M. D., & Snyder, L. B. (Eds.), *The SAGE sourcebook of advanced data analysis methods for communication research* (pp. 13-54). SAGE Publications.

Rosenberg, M. (1965). Rosenberg self-esteem scale (RSE). *Acceptance and Commitment Therapy, Measures Package, 61*.

Ross, L. E., Salway, T., Tarasoff, L. A., MacKay, J. M., Hawkins, B. W., & Fehr, C. P. (2018). Prevalence of depression and anxiety among bisexual people compared to gay, lesbian, and heterosexual individuals: A systematic review and meta-analysis. *The Journal of Sex Research, 55*(4-5), 435-456.

Rubino, C., Case, R., & Anderson, A. (2018). Internalized homophobia and depression in lesbian women: The protective role of pride. *Journal of Gay & Lesbian Social Services*, *30*(3), 244-260.

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.

Ryan R. M., Deci E. L., Vansteenkiste M. (2016). Autonomy and autonomy disturbances in self-development and psychopathology: Research on motivation, attachment, and clinical process. In Cicchetti, D. (Eds.), *Developmental Psychopathology* (pp. 385-438). Wiley.

Ryan, W. S., Legate, N., Weinstein, N., & Rahman, Q. (2017). Autonomy support fosters lesbian, gay, and bisexual identity disclosure and wellness, especially for those with internalized homophobia. *Journal of Social Issues*, *73*(2), 289-306.

Sandfort, T. G., de Graaf, R., ten Have, M., Ransome, Y., & Schnabel, P. (2014). Same-sex sexuality and psychiatric disorders in the second Netherlands Mental Health Survey and Incidence Study (NEMESIS-2). *LGBT Health*, *1*(4), 292-301.

Snow, J., & Mann, M. (2013). Qualtrics survey software: Handbook for research professionals. *Qualtrics Labs, Inc.*

Soenens B., Vansteenkiste M. (2011) When is identity congruent with the self? A self-determination theory perspective. In Schwartz, S., Luyckx, K., & Vignoles, V. (Eds.), *Handbook of Identity Theory and Research* (pp. 381-402). Springer.

Tinakon, W., & Nahathai, W. (2012). A comparison of reliability and construct validity between the original and revised versions of the Rosenberg Self-Esteem Scale. *Psychiatry Investigation*, *9*(1), 54-58.

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, *23*(3), 263-280.

Vansteenkiste, M., Ryan, R. M., & Soenens, B. (2020). Basic psychological need theory: Advancements, critical themes, and future directions. *Motivation and Emotion*, *44*, 1-31.

Ryan, W. S., Legate, N., Weinstein, N., & Rahman, Q. (2017). Autonomy support fosters lesbian, gay, and bisexual identity disclosure and wellness, especially for those with internalized homophobia. *Journal of Social Issues*, *73*(2), 289-306.

Wolff, M., Wells, B., Ventura-DiPersia, C., Renson, A., & Grov, C. (2017). Measuring sexual orientation: A review and critique of US data collection efforts and implications for health policy. *The Journal of Sex Research*, *54*(4-5), 507-531.

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema Therapy*. Guilford.