

Minority Stress, Sexual Minorities and
Psychological Wellbeing:
Implications for positive psychology

By

Jessica Domm

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Abstract:

Lesbian, gay, and bisexual individuals experience poorer mental and physical health compared with heterosexuals. Minority stress has been posited as the mechanism by which sexual minorities incur a range of detrimental experiences. This study aimed to identify which of these minority stressors would be uniquely related to psychological distress when examined concurrently within an Australian LGB population. Of a range of minority stressors, it was found that increased vigilance was positively associated with anxiety and stress, and that isolation was associated with increased depression and lowered self-esteem. Notably, gender expression concerns were positively associated with depression, anxiety, stress, and negatively with self-esteem. Despite such negative outcomes, a positive psychology framework offers that sexual minorities tend to develop a range of strengths that serve not only to buffer minority stress, but also promote personal growth for LGB individuals and communities. This study investigated whether eudaimonic wellbeing, as distinct from hedonic wellbeing, would be identified as having a psychologically protective function in line with a strengths-based approach. Evidence was found to support this hypothesis, with engagement in eudaimonic activities coinciding with less depression given a condition of isolation. Toward explaining this occurrence, it was further proposed that self-esteem mediate the relationship between eudaimonia and depression. Supporting this proposal, it was found that higher levels of eudaimonia were related to higher self-esteem, which in turn coincided with less depression. These findings should help to guide practitioners in providing interventions toward psychological wellbeing for LGB people that promote strengths alongside treatment of psychological distress. Eudaimonia is offered as an effective conceptual framework for working with LGB people to promote psychological wellbeing, in part through enhancing self-esteem.

“If you are unwilling to endure your own suffering even for an hour, and continually forestall all possible misfortune, if you regard as deserving of annihilation, any suffering and pain generally as evil, as detestable, and as blots on existence, well, you have then, besides your religion of compassion, yet another religion in your heart (and this is perhaps the mother of the former) — the religion of smug ease. Ah, how little you know of the happiness of man, you comfortable and good-natured ones! For happiness and misfortune are brother and sister, and twins, who grow tall together, or... remain small together!” — Friedrich Nietzsche

“The fullest representations of humanity show people to be curious, vital, and self-motivated. At their best, they are agentic and inspired, striving to learn; extend themselves; master new skills; and apply their talents responsibly. That most people show considerable effort, agency, and commitment in their lives appears, in fact, to be more normative than exceptional, suggesting some very positive and persistent features of human nature.” – Richard Ryan & Edward Deci

“As each situation in life represents a challenge to man and presents a problem for him to solve, the question of the meaning of life can actually be reversed. Ultimately, man should not ask what the meaning of his life is, but rather he must recognise it is he who is asked. In a word, each man is questioned by life; and he can only answer to life by answering for his own life; to life he can only respond by being responsible. Thus ... in responsibility (is) the very essence of human existence.” – Viktor Frankl

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Chapter 1: Introduction and Rationale

Mental and Physical Health of Sexual Minorities

Mental and physical health of sexual minorities has been an increasing research focus in recent decades, contributing to a growing awareness of disparity in morbidity among sexual minorities in comparison to the heterosexual majority (Mays & Cochran, 2001; Meyer, 1995). It is well-established that those in sexual minorities tend to suffer worse mental health outcomes than the general population, with enhanced risk of depression, anxiety, substance use disorders (Green & Feinstein, 2012), deliberate self-harm, and suicide (Bybee, Sullivan, Zielonka, & Moes, 2009; King et al., 2008; Meyer, 2003; Stillman et al., 2009). Overlapping with poorer mental health, a range of physical health problems have been associated with sexual minority status (Institute of Medicine, 2011; Lick, Durso, & Johnson, 2013; Meyer & Frost, 2013). Population-based studies have found higher rates of health problems among LGB populations, varying between groups, coinciding with lower socio-economic indicators (Fredriksen-Goldsen, Kim, & Barkan, 2012; Institute of Medicine, 2011). Fredriksen-Goldsen et al. (2012) found higher rates of health problems and disability among LGB populations, including: smoking, arthritis, and frequent mental distress; higher obesity among lesbians; more instances of asthma and poor physical health among bisexual women; and more smoking, poor physical health, and mental distress among gay and bisexual men.

Outcome differences associated with various mental health outcomes for sexual minority groups appear to be influenced by gender and sexual identity (King et al., 2008; Leonard et al., 2012). Recent meta-analyses found that compared with heterosexuals, LGB people had twice the suicide risk in the preceding year, were 1.5 times more likely to suffer depression and anxiety and were 1.5 times more likely to abuse substances in the preceding year (King et al., 2008). King et al. (2008) also found that gay and bi-sexual men had four times more lifetime risk of suicide, while lesbian and bisexual women were four times more likely to abuse substances. Other meta-analyses found that gay men are between three and four times more likely than heterosexual men to experience depression, anxiety, suicide ideation, and other disorders, across North America and parts of Europe (Lewis, 2009). Lewis (2009) also found LGB youth were more likely to experience suicidal ideation, to attempt suicide, and to experience associated risk factors.

Explanations for sexual minorities suffering poorer mental health than heterosexuals largely converge around social discrimination and rejection (Meyer, 2003). Reviews of

existing research demonstrating greater prevalence of mental disorders among LGB people have identified stigma, discrimination, and prejudice as primary influences (Meyer, 2003). Alongside interpersonal stigma that occurs on a cultural level, intrapersonal anticipatory stigma, or fear of social discrimination, contributes to the motivation to conceal sexual minority identity and can confound the ability to elicit social support (Quinn & Chaudoir, 2009). Shame, guilt, parental criticism, and social pressure to conform, all tend to damage self-esteem and coping among younger gay men who may lack the freedom to choose more welcoming and supportive social environments (Bybee et al., 2009). Many gay people fear coming out as they risk losing friends (Bybee et al., 2009), yet concealment itself has been found to have detrimental effects on mental health (Smart & Wegner, 2000). In a study of LGB adolescents, greater suicidal ideation than heterosexual peers was found to be mediated by a perception that one is a burden on those around them, enhanced by fear of social rejection (Hill & Pettit, 2012). With awareness of embodying a socially devalued identity that can render one vulnerable to discrimination and prejudice, individuals often conceal their sexual identity from others (Quinn & Chaudoir, 2009). Quinn and Chaudoir (2009) found that people with concealed stigmatised identities are more likely to have been, and continue to be, exposed to negative stereotypes that enhance anticipated stigma and psychological distress around revealing their identity.

Over the last half century, mental health disciplines have progressed in understanding and addressing mental health disadvantages for LGB people (Meyer, 2013). Complex social influences on the plight of LGB people have traditionally been under-acknowledged, despite often greater need within these groups for effective mental health support that takes these social influences into account (Leonard et al., 2012; Lesbian Gay and Bisexual (LGB) Youth Sexual Orientation Measurement Work Group, 2003). As with psychology generally, LGB treatment approaches have tended to reflect the expedience of treating LGB individuals as though they exist outside of their social context and spontaneously develop psychopathology. Rather than sexual diversity being somehow synonymous with psychopathology, it becomes ever clearer that cultural misunderstanding and intolerance have and continue to contribute to the mental health disadvantage for LGB people (Meyer, 2003; Morrow, 2001). It is telling that during the 1960's and early 1970's, homosexuality was classified as a mental health disorder (American Psychiatric Association, 1968), and 'reparative' therapies were abound that aimed at 'treating homosexuality' with the underlying assumption of pathology (Morrow, 2001). In 1973, the American Psychiatric Association issued a statement that homosexuality

implies no impairment, that discrimination based on homosexuality was deplored, and gave support for civil rights legislation for homosexuals (American Psychiatric Association, 1974). The American Psychological Society soon followed suit and urged mental health professionals to uphold this updated position (Conger, 1975). Reflecting this changed stance, homosexuality was removed from the DSM-II classification of mental disorders and replaced by the category Sexual Orientation Disturbance (American Psychiatric Association, 1980). Broad consensus now discredits pathological diagnosis and conversion treatments for homosexuality, meaning the view of LGB individuals as inherently embodying some form of mental illness have largely eroded (Gonsiorek, 1991). This updated consensus enables meaningful investigation of actual contributing influences and protective factors for mental health among sexual minorities.

Sexual minorities are diverse, spanning those who do not identify alongside the majority as heterosexual, and are often interwoven with gender identity, so that myriad idiosyncratic sexual identities are possible. Systemic misconstruing of the nature of challenges faced by sexual minorities linger in society, and gaps remain in fully addressing the needs of sexually and gender diverse populations. Bisexuality has been largely under-represented, despite forming a relatively large portion of sexually diverse populations, and prevailing misconceptions persist about bisexuality as a distinct sexual identity among researchers, practitioners, and the public (Worthington & Reynolds, 2009). Even less progress has been made toward understanding the plight of lower-prevalence groups, including transgender people (Lytle, Vaughan, Rodriguez, & Shmerler, 2014). Cisgender is a term that recently entered the Oxford Dictionary, referring to a person whose self-identity conforms with gender corresponding to their biological sex, the very addition of which acknowledges the existence of alternatives. Yet the enduring diagnostic category for ‘gender dysphoria’ in the current diagnostic and statistical manual (DSM-5) developed by the American Psychiatric Association for use by clinical mental health practitioners, points to the persistent pathologising of non-cisgender groups within the psychiatric discipline and beyond.

While complexities of sexual and gender diversity continue to evade understanding in modern western cultures, evolutionary scientists have offered several theories and identified multiple genetic, developmental, and experiential influences (Kirkpatrick, 2000; Salais & Fischer, 2010; VanderLaan, Ren, & Vasey, 2013). A vast body of evidence for the ‘naturalness’ of sexual diversity can be drawn from evolutionary exploration in the natural

world, including the human cultures (Roughgarden, 2004). Though evolutionists are yet to achieve explanatory consensus for sexual diversity, they are clear that gender and sexual diversity are geographically and temporally ubiquitous throughout human history (Kirkpatrick, 2000; VanderLaan et al., 2013). One theory of interest to this study is that homosexuality and transgendered males are maintained in the evolutionary environment due to their family care functions arising from kin-directed altruism, and further that they have tended to embody a shamanistic function (Salais & Fischer, 2010; VanderLaan et al., 2013). While such evolutionary theory lends toward a more nuanced understanding of human sexual diversity, paucity of empirical research regarding non-heterosexual non-cisgendered groups creates challenges for researchers, particularly for lower prevalence groups. Such difficulties defining and distinguishing, as well as lack of verified measurements, render specific investigation of sexually diverse non-LGB persons, such as the transgendered, problematic. Therefore, the acronym LGB will be used throughout this dissertation rather than LGBT or LGBTQ, as it is beyond the scope of this research to consider the Transgender and the Queer and all the other individuals whose sexual or gender identities do not clearly fall within the LGB categories. However, it seems likely that investigation of LGB populations can suggest avenues for further research among non-LGB sexual minorities.

Overview of Important Concepts

This section outlines some of the important concepts on which this research is based, including mental health within sexual minorities, minority stress, positive psychology, psychological distress, self-esteem, and eudaimonic and hedonic concepts of wellbeing. Exploring some of the established and proposed relationships between these concepts assists with developing the nature of and rationale for the present investigation. Links are made between minority stress in sexual minorities, psychological distress in the context of sexual minority stress, the interaction of sexual minority stress with hedonic and eudaimonic wellbeing in relation to psychological distress, the role of self-esteem in the association between eudaimonia and psychological distress, and the relevance of positive psychology approaches for sexual minorities.

Sexual minorities, including lesbian, gay and bisexual (LGB) people, tend to experience worse mental health outcomes than the general population (Bybee, Sullivan, Zielonka, & Moes, 2009; Meyer, 2003). Minority stress theory (Meyer, 1995) posits that everyday experiences of discrimination and prejudice toward members of minority groups combine to form a pervasive level of psychological stress. The contention has emerged that,

as with any marginalised group, the negative effects of minority stress on psychological wellbeing may largely account for poorer mental health observed within LGB populations (Meyer, 2003). Minority stress for LGB people arises from the cumulative effect of a variety of stressors over time that may include societal level (e.g., marriage equality laws) and individual level processes, ranging from distal (e.g., verbal harassment) to more proximal (e.g., internalised homonegativity) (Balsam, Beadnell, & Molina, 2013). While greater psychological distress is well documented among those who identify as LGB (Balsam et al., 2013), questions as to the most relevant minority stressors remain unanswered. For psychologists to more effectively support LGB individuals' mental health, further delineation of how and when sexual minority stress processes contribute to psychological distress is beneficial.

In exploring psychological phenomena, it has long been observed that psychology as a discipline tends to align with a disease or pathology-based approach (Albee, 1968). In response to this approach, positive psychology has emerged in recent decades as an alternative framework for supporting mental wellbeing (Seligman & Csikszentmihalyi, 2000; Seligman, Steen, Park, & Peterson, 2005). Positive psychology builds on humanist ideology toward identifying, reinforcing, and fostering strengths individuals may have at their disposal in dealing with adverse experiences (Erikson, 1980; Maslow, 1970; Seligman & Csikszentmihalyi, 2000; Seligman et al., 2005). Positive psychology pioneers, Seligman and Csikszentmihalyi (2000), described a three-pillar model of strengths comprising positive subjective experiences, virtues and character strengths, and institutions that foster the first two strengths in individuals. Accordingly, developers of psychological interventions can examine individual processes related to positive subjective experiences and character strengths that can be applied on both individual and institutional levels. Self-esteem is a well-established individual strength that is associated with positive outcomes despite adverse events (Rosenberg, 1979). Less well-established are the concepts of hedonic and eudaimonic wellbeing, which have begun to be explored within the positive psychology framework as a way of understanding strength processes and to guide potential avenues of intervention (Huta, 2015; Huta & Ryan, 2010; Waterman, 1993). Hedonic wellbeing, or hedonia, pertains to enjoyment of pleasurable experiences alongside absence of pain and discomfort. Eudaimonic wellbeing, or eudaimonia, has long been of interest to philosophers, as it points to the somewhat elusive potential for personal growth through adversity, and development of such resilience attributes as altruism, purpose, and meaning (Erikson, 1980; Frankl, 2006;

Waterman, 1993, 2013; A. S. Waterman, 1990). Eudaimonia is thought to reflect an inherent transcendent human capacity and has emerged for consideration within positive psychology as part of the broader study of the development of character strengths (Ryff, Keys, & Hughs, 2003; Seligman & Csikszentmihalyi, 2000).

Applying positive psychology lens to LGB concerns, we may consider a two-continua model that greater psychological distress because of minority stress does not preclude a propensity for achieving aspects of psychosocial wellbeing (Meyer, 2003). Sexual minority individuals may tend to obtain a broad range of personal and relational gains that are beneficial on individual, interpersonal, and broader societal levels (Riggle, Whitman, Olson, & Rostosky, 2008; Rodriguez & Vaughan, 2013; Vaughan & Rodriguez, 2014; Vaughan & Waehler, 2009). Resilience and stress-related growth are examples of individual strengths considered highly formative for LGB people in managing minority stress (Meyer, 2003; Park, Cohen, & Murch, 1996). Qualitative research along this line by Riggle et al. (2008) found LGB people self-described as possessing inner strengths in relation to their sexual identity, despite many challenges associated with their sexual minority status. Purported LGB strengths pertain to a communal orientation: disclosure and social support, insight into and empathy for self and others, and freedom from societal definitions of roles (Riggle et al., 2008). Likewise, character strengths associated with courage (bravery, authenticity and zest), humanity (love and social intelligence), and justice, citizenship and fairness have been identified as particularly pertaining to LGB minority stress experiences (Riggle, Whitman, Olson, & Rostosky, 2008; Vaughan & Rodriguez, 2014). Similar themes of LGB strengths found include authenticity, honesty, and personal responsibility for upholding and advocating egalitarian principles (Riggle et al., 2008; Rodriguez & Vaughan, 2013; Vaughan & Rodriguez, 2014; Vaughan & Waehler, 2009). Educational and organisational settings interplay with individual strengths, such that those which recognise and are open to diversity, function better and are experienced more positively by sexual minority members (Henry, 2003; Luring & Selmer, 2011).

In line with a two-continua model of minority stress (Meyer, 2009), aims of the present study are two-fold: to better delineate how minority stress is reflected in LGB individuals' psychological health, and to lend support to a positive psychology approach of identifying strengths of LGB persons. Firstly, it is desired that a more complex understanding of minority stress processes among LGB people may serve to guide psychological intervention better tailored for sexual minority individuals. Improved understanding may be

gleaned by comparing, for example, stressors and psychological outcomes between sexual minority groups. Secondly, it is proposed that LGB people enact general psychological processes (Hatzenbuehler, 2009), including personal strengths (Meyer, 2015; Rodriguez & Vaughan, 2013), in helping to mitigate sexual minority stress and psychological distress. While relevant institutions and organisations are beyond the scope of the current study, investigating individual strengths among LGB people will have implications for broader social contexts (Seligman & Csikszentmihalyi, 2000). Self-esteem is a personal strength that has long been associated with better psychological outcomes despite stressful conditions (Rosenberg, 1979), while low self-esteem is a known risk factor associated with poor outcomes for LGB persons (Ploederl & Fartacek, 2005; Rosario, Hunter, Maguen, Gwadz, & Smith 2001; Wichstrom & Hegna, 2003; Ziyadeh et al., 2007). Eudaimonia is proposed as a strength with the potential to highlight opportunities for personal transcendence (Huta, 2015; Huta & Ryan, 2010), while conceptual overlap of eudaimonic wellbeing with many strengths attributed to sexual minorities in the literature, (Huta, 2015; Huta & Ryan, 2010; Riggle, et al., 2008; Rodriguez & Vaughan, 2013) signals eudaimonia as a promising area for research and intervention for sexual minorities. Drawing on these literatures, the role of self-esteem in association with eudaimonia in navigating sexual minority stress to prevent psychological distress is herein considered.

Chapter 2: Minority Stress

In investigating influences of poorer outcomes among LGB people, it is considered that being part of any minority group entails associated stress that majority groups are spared. The concept of minority stress builds on the general stress model, holding that environmental adversity is influential in the occurrence of various forms of psychopathology, including posttraumatic stress disorder, major depression, alcoholism, substance use disorders, antisocial personality disorder, and nonspecific distress (Dohrenwend, 2000). Stress may be described in a psychological sense as experiential processes that place strain on an individual in maintaining regular function (Hobfoll, 1998; Lazarus, 1981; Mink, Lindley, & Weinstein, 2014). Mink et al. (2014) defined the stress cycle as the experience of threats on mental, social, physical, and spiritual wellbeing, tending to have circular effect whereby negative outcomes can beget further negative outcomes. Stressors on the individual level can include traumatic events, chronic conditions, daily challenges, and changes to life circumstances (Mink, et al., 2014).

Social stress extends beyond individual stressors to stress-inducing conditions of the social environment, and is likely to impact on members of stigmatised, often minority, social positions (Meyer, 2003). The detrimental impact of stress associated with minority group membership has been widely demonstrated (Kessler, Michelson, & Williams, 1999; Pinel, 1999; Sue, 2010). Social stress processes mean members of minority groups tend to cumulatively incur stressful experiences associated with not being a member of a dominant majority within a given social context (Pinel, 1999). Social stress processes may be considered to operate concurrently on many levels, including within-person traits, varying states, social situations and interpersonal responses (Nezlek, 2007). For example, social stigma occurs through various mechanisms, including discrimination, expectancy confirmation, stereotype activation, and threats to social identity (Major & O'Brien, 2005). Mink et al. (2014) explain how stigma is the interaction between an individual of minority status, collective majority views that disparage aspects of minorities, and the minority individual's internalisation of the negative evaluations by the majority.

Individual and social stress processes unique to minority groups have been labelled minority stress, providing a conceptual framework for further research (Meyer, 2003). In conceptualising minority stress processes, Meyer (2003) suggested a continuum of proximal stressors, referring to those experienced as internalised cognitive processes incurred through

socialisation, and distal stressors, referring to events and experiences outside the person. Distal stressors might include everyday concerns, life events, or limitations in opportunities. By contrast, proximal stressors might include internalised aggression or negative attitudes towards one's own group, expectations of rejection or discrimination, or concealment of a stigmatised identity (Meyer, 2015). As well as increasing stress load, minority stress processes serve to reduce availability of coping resources (Meyer, Schwartz, & Frost, 2008), attenuating social and psychological resources that are essential to health outcomes (Lehavot & Simoni, 2011).

Minority groups vulnerable to minority stress include those in ethnic, religious, or cultural minorities, clinical ill-health minorities, and sexual minorities (Bazemore, Janda, Derlega, & Paulson, 2010). Although subject to minority stress, members of some minority groups experience certain protective factors that remediate the impact of prejudice, harassment, and stigma within the broader cultural setting (Bostwick, Boyd, Hughes, West, & McCabe, 2014; Mossakowski, 2003). Bostwick et al. (2014) highlights that while many minority members will grow up surrounded by those who share this aspect of their identity, sexual minorities may not. Unlike LGB people, cultural or ethnic minority members are likely to return home each day to fellow members of that minority and have early and ongoing experiences of in-group acceptance that mitigate their experiences of minority stress. Adding to complexity of minority stress is that minority status as part of one group often intersects with other minority positions (e.g., ethnicity, religion), creating unique social standings (Mink et al., 2014). Such intersection between multiple minority identities, such as racial and sexual, has been shown to often convey more deleterious effects on mental health than sexual minority status alone (Bostwick et al., 2014).

Minority Stress for Sexual Minorities

As sexual minority group members, LGB people tend to experience social stigma and marginalization that is widely thought to result in minority stress (Brooks, 1981; Meyer, 1995, 2003). Minority stress theory in relation to sexual minorities posits that cumulative stress processes including social stigma, prejudice, and discrimination create stressful social environments that challenge the mental health of LGB people in many ways (Kessler et al., 1999; Meyer, 1995, 2003, 2013, 2015; Meyer & Frost, 2013; Meyer et al., 2008; Stillman et al., 2009). Sexual minority identity means navigating sources of minority stress on many levels (Levitt et al., 2016; Meyer, 1995). Meyer (1995, 2003) described a variety of distal and

proximal stress processes that contribute to LGB minority stress. Distal stressors include prejudice events, harassment, discrimination, and hostile social environments, while proximal stressors include expectations of rejection, hiding and concealing one's sexual orientation, and internalised homophobia. Distal stressors are external events, including such daily heterosexist hassles as having others benignly yet wrongly assume an individual is straight (Swim, Johnston, & Pearson, 2009), while external events may manifest as proximal stressors, such as internal appraisals and perceptions (Meyer, 2013). Aspects of minority stress impact on LGB people in different ways (Feinstein et al., 2012), and complex interactions may occur between various sources of minority stress (Meyer, 1995). Minority stress can be variously experienced by LGB people through chronic or acute stressful conditions, perpetual vigilance for such events, and the internalisation of negative social attitudes (Meyer, 2013). Satisfactory investigation of sexual minority stress therefore includes group-specific processes related to social stigma, common psychological processes, and interactions of minority stress processes (Feinstein et al., 2012; Hatzenbuehler, 2009; Hatzenbuehler, Dovidio, Nolen-Hoeksema, & Phillips, 2009).

Theoretical models attempt to delineate the various pathways by which minority stress may influence psychological distress for sexual minorities (Bostwick et al., 2014; Denton, Rostosky, & Danner, 2014; Feinstein, Goldfried, & Davila, 2012; Mink et al., 2014). Among an LGB sample, Lehavot and Simoni (2011) found that victimisation, internalised homophobia, and concealment were each associated with substance use, and less activation of psychosocial resources such as accessing social support and spirituality. Further, substance abuse and less psychosocial resources in this group were associated with increased mental health problems (Lehavot & Simoni, 2011). Among lesbian women, stigma consciousness and concealment of sexual orientation have been associated with social constraints among family and friends in being able to address these issues (Lewis, Milletich, Mason, & Derlega, 2014). For these women, social constraints led to rumination, which in turn heightened psychological distress (Lewis, et al., 2014). Experiences of discrimination and psychological distress has been shown to be influenced by internalized homonegativity and rejection sensitivity among lesbians and gay men (Feinstein et al., 2012). Feinstein et al. (2012) found that internalised homonegativity mediated the relationship between discrimination experiences and depression, while rejection sensitivity was associated with greater social anxiety. Hatzenbuehler (2009) offered that stigma-related stress renders sexual minority members vulnerable, due to depleted internal resources, and weakened ability to enact

general psychological coping processes. Emotion regulation strategies, rumination, and suppression have been found to mediate the relationship between an LGB sample's implicit antigay attitudes and psychological distress (Hatzenbuehler, et al., 2009). Internalised homophobia has been shown to exacerbate emotional dysregulation in the forms of rumination and suppression, contributing to psychological distress among LGB people (Hatzenbuehler et al., 2009). Rumination is described as a maladaptive emotion regulation strategy in which an individual passively and repetitively focuses on his or her symptoms of distress, and surrounding circumstances, which often further contributes to their psychological distress (Hatzenbuehler, 2009). Rumination may be understood as part of an attempt to manage social stigma by being hypervigilant to social hostility, and constantly evaluating the degree of concealment required to avoid threats (Hatzenbuehler, et al., 2009).

Seeking social support from family, peers, and institutions in times of elevated stress is a common coping strategy (Hatzenbuehler, 2009). Hatzenbuehler (2009) outline how social support is another means of coping that seems likely to be restricted in managing social stigma associated with sexual minority status. Qualitative research into minority stress found that desire for social benefits associated with authenticity in identity expression, was often at odds with threats to self-determination that may arise with openly identifying as a sexual minority individual (Levitt et al., 2016). Hypervigilance, fear of rejection, and uncertainty around social receptivity, and concealment, are likely to inhibit LGB people from accessing social support in times of need and lead to social isolation (Hatzenbuehler, 2009). Mink, et al., (2014) describes how relentless hypervigilance in navigating the predominant heteronormative culture contributes to experiences of social stigma and chronic strain, which greatly impact mental health outcomes for LGB people. Social isolation experiences can sensitise one to negative social information, avoidance of social contact, hypervigilance for rejection, and concealment, leading to further isolation (Ploederl & Fartacek, 2005; Wichstrom & Hegna, 2003).

Disparities between sexual minority outcomes regarding location provide further explanation of minority stress processes (Lewis, 2009). Lewis (2009) identified policy regimes, health programming, and social constructions of sexual minorities comprised place-contingent minority stress processes that impact the mental health of sexual minorities. Evidence for this was collected following the recent marriage amendment laws to restrict marriage to heterosexuals in some US states, finding an association between amendment-related affect and psychological distress that was significantly higher in states that had passed

a marriage amendment compared with other states (Levitt et al., 2009; Rostosky, Riggle, Horne, & Miller, 2009). Rostosky et al. (2009) concluded their findings emphasize that marriage amendments create a social environment associated with negative psychological outcomes for LGB individuals. Findings such as these highlight the interplay between social environment and barriers to utilising coping strategies such as social support to manage experiences of social stigma.

Minority stressors that impact sexual minorities have been comprehensively identified and compiled by Balsam, Beadnell and Molina (2013), to assist further research. This list of specific sexual minority stressors has been organised into nine subscales: vigilance, harassment/discrimination, gender expression, parenting, victimisation, family of origin, vicarious trauma, isolation, and HIV/AIDS. Each of these subscales are considered below considering previous research to provide some of the context for the current study. It is worth noting that although internalised homophobia is an important part of Meyer's (2003) minority stress model, it was not included as a scale in the Balsam, et.al.'s (2013) minority stress measure as they found it was only rarely mentioned by focus group participants. Internalised heterosexism / homophobia has been extensively researched and may be relied upon to inform the current research (Moradi, van den Berg, & Epting, 2009; Szymanski, 2009; Szymanski et al., 2008a). Although internalised homophobia will not be specifically targeted as part of this research, it is interwoven with discussion of sexual minority stressors.

Vigilance

Review of the literature suggests sexual minorities experience stress related to vigilance (Hatzenbuehler, 2009; Levitt et al., 2016). Living with a concealable stigmatised identity means LGB people tend to be vigilant for indicators in the social environment that are affirming or threatening of their identity (Levitt et al., 2016; Quinn & Chaudoir, 2009). LGB people report processes of continual risk assessment in evaluating their social environment for cues as to whether they are affirming or would be best met by concealing sexual minority identity (Levitt et al., 2016). In doing so, Levitt et al. (2016) found LGB people use strategies for screening others' attitudes to sexual minorities to make calculated choices about interpersonal risk. LGB research participants have reported vigilance in balancing level of risk of interpersonal rejection upon disclosure, concealment guilt, relational complications, or unwanted exposure when opting not to disclose (Levitt et al., 2016). Participants also reported monitoring and adjusting own speech, appearance, and behaviour accordingly, despite psychological distress at having to do so. Meyer (2003)

identified that the internal processes of hiding aspects of the self is stressful and thwarts opportunities for social support and affirmation. Sexual minority status has been linked with higher levels of social anxiety symptoms, fear of negative evaluation and social avoidance (Szymanski, Kashubeck-West, & Meyer, 2008a). Vigilance tends to take a toll on physical as well as mental health, and has been found to disrupt eating, sleeping and other aspects of physical health (Levitt et al., 2016).

Even when concealment prevents an LGB person being a target of direct bullying or victimization, sexual minorities are often subject to social environments in which homophobic attitudes are expressed (Balsam & Hughes, 2012). With such exposure, LGB tend to internalise negative attitudes and assumptions that are encountered in society, a proposed mechanism by which vigilance has deleterious effects on psychological health (Szymanski, 2009; Szymanski et al., 2008a). Concealment by its nature reflects personal expectations of rejection or internalised homophobia, requires vigilance, and has been found to deplete the psychological resources of the person who is concealing parts of their identity (Smart & Wegner, 2000). Psychological processes of guilt and internalised threat have been found to play a role in internalising homonegativity amongst lesbians and gay men (Moradi, van den Berg, & Epting, 2009). Pachankis et al. (2008) found that among gay men, internalised homophobia mediated the relationship between parental rejection and gay-related rejection sensitivity. Internalised homosexism has been linked to more conflict concerning sexual orientation, increased frequency of passing as a heterosexual, more avoidant coping, less social support, less satisfaction with social support, and less connection with the LGB community (Szymanski, 2009).

Harassment/Discrimination

Researchers have seen that poor mental health outcomes and stress can be attributed to discrimination (Kessler et al., 1999), which widely effects LGB people. Discrimination toward sexual minorities is evident across religious, political, legal, educational, and medical institutions (Levitt et al., 2016; Meyer, 2003). Disparities remain between sexual minorities and heterosexuals in fundamental issues of legal partner inheritance, same-sex marriage, child adoption, and fertility services, among others (Levitt et al., 2016). Heterosexist events and microaggressions, including homosexism in the workplace and other settings, have been characterised as forms of harassment and discrimination that have deleterious consequences for mental health (Szymanski, 2009). With a male gay and bisexual sample, Szymanski (2009) found support for a heterosexism link to psychological distress that persisted even

when moderating factors such as avoidant coping, social support, and self-esteem were considered. Results like these would suggest that experiences of harassment and discrimination tend to erode one's psychological health despite the employment of known stress-protective coping strategies. Among such coping strategies, Szymanski (2009) did find support for self-esteem as a moderating factor between stress and distress.

LGB people come across harassment and discrimination and their consequences in a variety of social settings. For example, heterosexism within the workplace tends to lead to psychological distress and health-related problems, that may lead to job dissatisfaction and withdrawal for LGB people (Waldo, 1999). Social policy, harassment and discrimination on a societal level, such as marriage amendments to exclude same-sex marriage, has been shown to impact detrimentally on LGB mental health (Levitt et al., 2009; Rostosky et al., 2009). Illustrating this, Levitt et al. (2009) found better outcomes for LGB people living in states where marriage equality was legislated, and particularly among those who were married. While belonging in a secure, loving relationship tends to promote wellbeing (Deiner et al., 2000; Mohr & Daly, 2008), it seems that societal approval of one's relationship demonstrated by endorsement of the marriage rite between same-sex couples contributes to this benefit (Rostosky et al., 2009). Beyond sexual minority stress alone, stress among LGB people can be further incurred with harassment and discrimination associated with multiple minority identities (Levitt et al., 2016).

Gender Expression

Research indicates a significant proportion of those who identify as gay, lesbian, or bisexual will experience concerns around gender expression that are associated with their sexuality (Moradi, Mohr, Worthington, & Fassinger, 2009). Mechanisms for minority stress associated with gender expression are largely attributable to the degree to which an individual feels their expression of gender is accepted within their social environment (D'Augelli, Grossman, & Starks, 2006). Gender expression research has largely drawn from characterisations captured in Bem's sex-role inventory, which includes 'understanding', 'compassionate', and 'yielding' as descriptors of femininity while masculinity is described as 'aggressive', 'forceful', and 'dominant' (Bem, 1981). Gender atypical youth have been found to perceive that others, including parents, had a negative view of their gender atypicality (D'Augelli et al., 2006). Gender nonconformity in childhood has been identified as a significant antecedent to experiences of discrimination and rejection sensitivity (Feinstein et al., 2012). LGB individuals who act in ways that are inconsistent with gender role

expectations may experience pressure to conform, heightened self-monitoring, anticipation of judgement, and even overt hostility or rejection (Mink et al., 2014). Findings of Feinstein et al. (2012) suggest that those who report greater gender atypical behaviour in childhood may represent a subscale of LGB individuals who are particularly at risk for discrimination and its consequences.

Sexual minority women tend to vary in the degree to which they may be characterised as 'butch' or 'femme', colloquial terms which are based on appearance, gender roles, and emotional expression (Lehavot & Simoni, 2011; Levitt, Puckett, Ippolito, & Horne, 2012). Women characterised as femme tend to present as traditionally feminine, while butch women present as traditionally masculine (Rosario, Schrimshaw, Hunter, & Levy-Warren, 2009). Levitt et al. (2012) outlined that butch-identified women tend to encounter more experiences of violence, threats of violence, discrimination, and victimization. Levitt et al. (2012) also found that butch women tended to be more out, utilised more social supports, and had lower levels of psychological distress than femme-identified women. These results suggested that lesbians who defy traditional gender-defined characteristics by expressing more butch characteristics may be more subject to overt social pressures, while femme lesbians are more likely to experience internalised homophobia (Lehavot & Simoni, 2011; Rosario, Rotheram-Borus, & Reid, 1996). Findings that lesbians with greater internalised homophobia and social constraints tend to exhibit more aggression toward their partners further outlines the complexity of minority stress associated with gender expression (Lewis, Milletich, Derlega, et al., 2014).

Gay and bisexual men have been found to experience more victimisation than sexual minority women, in large part due to gender atypicality (D'Augelli et al., 2006). Gay and bisexual men are more vulnerable to pressure to conform to social norms around masculinity, which has been shown to have a detrimental impact on health (Hamilton & Mahalik, 2009; Mink et al., 2014). Mink et al. (2014) explain how heightened anticipation of judgement combined with constant self-monitoring and threat appraisal is common among men with atypical gender expression. Failure to comply with gender norms can lead to overt hostility; gay and bisexual men who present a more traditionally feminine expression of gender are more likely to be victimised by heterosexual men (D'Augelli et al., 2006; Mink et al., 2014). Conversely, Hamilton and Mahalik (2009) found that gay men who conformed to heterosexual norms by expressing more typically masculine gender expression were more likely to engage in behaviours that placed them at risk. Hamilton and Mahalik (2009)

concluded that expression of traditional masculinity relates to an array of physical and psychological health problems for gay men. For example, gay men's construction of masculinity seems to play a role in their substance use and sexual behaviour that puts them at risk for contracting HIV and other sexually transmitted diseases that have potentially serious health consequences (Hamilton & Mahalik, 2009). Such findings depict a complex picture around the minority stress processes associated with gender expression for LGB men and women.

Parenting

Parenting issues for sexual minorities has often been fraught, with controversy around whether LGB people are capable of parenting as effectively as their heterosexual counterparts (Lev, 2010). Questions around whether LGB parents can parent as effectively as heterosexual parents are often concerned for normative gender and sexual development in their children (Lev, 2010). This concern reflects heteronormative assumptions around what constitutes healthy childhood development and ignores potential strengths (Fairtlough, 2008). Contrary to concerns, qualitative research by Fairtlough (2008) found that children of LGB parents cited their openness to diversity as a strength associated with exposure to sexual diversity through having a sexual minority parent. Some evidence shows that lesbian mothers tend to share child-care tasks more equally than heterosexual parents (Chan, Brooks, Raboy, & Patterson, 1998). Chan et al., (1998) found that mothers who were more satisfied with the division of family decisions in the home were also more satisfied with their relationships and had children who exhibited fewer externalizing behaviour problems.

More obstacles to parenthood are present for gay men than for lesbian or bisexual women, and less research has been undertaken to determine long term consequences for children (Golombok & Tasker, 2010). Among gay fathers, the largest portion are those who had children in the context of a heterosexual relationship, but a growing number are planning families after coming out (Patterson, 2006). Patterson (2006) highlights openly gay men experience broad challenges in adopting children due to restrictive adoption practices. Investigating what influences decisions regarding adoption applications by LGB people, Kimberly and Moore (2015) identified that factors associated with adoption agency directors were influential factors on application acceptance. It was found that directors' level of familiarity with state policy around LGB adoption, religious conflict, civil rights opinions, and view of LGB people as prospective parents all influenced how applications were received.

Decades of researching comparing children of traditional heterosexual parents and those with LGB parents has revealed few if any differences in wellbeing (Fairtlough, 2008; Lev, 2010; Patterson, 2006; Puckett, Horne, Levitt, & Reeves, 2011). Quality of daily interactions, parental warmth and affection, and strength of parental relationships are better predictors of child wellbeing regardless of parents' sexuality (Patterson, 2006). Gay parents tend to be concerned about discrimination or ridicule their children may experience from peers, other parents, and teachers, because of having LGB parents (Patterson, 2006). Patterson (2006) found that children of same-sex parents did tend to encounter anti-gay sentiments among their peers, and subsequently reported feeling sad, angry, or upset about this experience of intolerance. Sexual minority parents and their children are also likely to be sensitised to aspects of minority stress directly impacting family life, such as restrictive adoptive and fertility practices (Puckett et al., 2011). Taken together, it seems much minority stress for LGB parents and their children arises through indirect societal-level influences, rather than being inherent in or directly attributable to LGB parent sexuality. Despite minority stress, the numbers of LGB parents seem to be on the increase in some parts of the world (Gates, 2012).

Victimisation

LGB people are at greater risk of victimisation, with important impacts on health and wellbeing (D'Augelli & Grossman, 2001; Lehavot & Simoni, 2011; Meyer, 2003). Victimisation, trauma, and hate-crimes are experienced far more by sexual minorities compared with heterosexual people (Herek, 2009; Meyer, 2010a). Within LGB samples, gay and bisexual men have reported higher rates of victimisation, particularly criminal and physical attacks (D'Augelli et al., 2006). Likewise, among an older sample (60 years and over), D'Augelli and Grossman (2001) found that many LGB people, and particularly men, had experienced significant victimisation in their lives, which included verbal abuse, threats of violence, actual violence, and threats to disclose their sexual orientation to others. Highlighting the risks of sexual minority disclosure, was that the earlier these older adults had identified as LGB the more victimisation was reported, although this may have reflected more negative societal attitudes in earlier times. Although it is uncertain whether LGB males experience more or different discrimination than LGB women, sexual minority women are at increased risk for interpersonal victimization over their life span when compared with heterosexual women (Lehavot & Simoni, 2011). Lehavot & Simoni (2011) explain that

victimization of these women can include verbal, physical, and sexual abuse, which has been linked with poor mental health.

A review of population-based data found that, compared with heterosexuals, LGB people were at elevated risk of exposure to every type of trauma except war (Roberts, Austin, Corliss, Vander Morris, & Koenen, 2010). Victimization of LGB people has been found across diverse aspects of life and are common in family, school and workplace settings (Balsam & Hughes, 2012). Elevated risk for victimisation for LGB is often reported to occur in the school environment, which is likely to negatively impact educational achievement (D'Augelli et al., 2006). In the workplace, Levitt et al. (2016) found that LGB people reported experiences of victimisation such as workplace harassment associated with their LGB identity that resulted in leaving employment. Balsam, Rothblum, and Beauchaine (2005) also found physical victimisation, including intimate partner violence and sexual assault, were more common among LGB people. Disparities were greatest for childhood maltreatment and interpersonal violence, with worst events experienced at a younger age by LGB people (Balsam et al. 2005; Roberts, et al.). LGB people are found to be at greater risk of victimisation over their lifespan than their heterosexual siblings, and that parental psychological, physical and sexual abuse were more common in LGB youth than in heterosexual youth (Corliss, Cochran, & Mays, 2002; Balsam et al., 2005).

Clear links can be made between experiences of victimisation and psychological ill-health among LGB people (Herek, 2009; Kessler, Davis, & Kendler, 1997; Meyer, 2010a; Roberts et al., 2010). Roberts et al. (2010) found among an LGB sample that experiences of trauma are strongly associated with post-traumatic stress disorder (PTSD), and greater PTSD prevalence can be accounted for by differential trauma exposure. Studies have also related sexual orientation-based hate-crime victimization to higher levels of depression, daily stress, psychological distress, and alcohol and drug abuse among lesbians (Herek, 2009; Meyer, 2010a). Victimization experiences are predictive of mental and physical health variables, with those who have been physically attacked reporting lower self-esteem, more loneliness, poorer mental health, and more suicide attempts (D'Augelli & Grossman, 2001; Lehavot & Simoni, 2011). Given this, it seems evident that victimisation is prevalent among LGB people and contributes to their experience of minority stress.

Family of Origin

Family of origin has been shown to play a very important role in the wellbeing and adjustment of LGB people, particularly during youth (Needham & Austin, 2010; Rothman, Sullivan, Keyes, & Boehmer, 2012). Sexual minority individuals may be isolated from early life as minority group members within their family, community, and broader social setting, and thus not experience the protective aspect of shared identity with family. LGB people often differ from other minority groups in that they rarely have the same minority status or identity as their family members, meaning they may not have opportunities for solidarity or modelled coping that would occur for other, such as cultural or religious, minorities (Mink et al., 2014). As with heterosexual individuals, LGB people who do experience family acceptance tend to have greater self-esteem, social support, and general health, and suffer less depression, substance use disorder, and suicidality (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010).

Childhood abuse is known to be detrimental to mental health (Kessler, et al., 1997), and a population-based survey found LGB people suffered more parental/guardian maltreatment than did heterosexuals (Corliss, et al., 2002). These discrepancies in childhood mistreatment have been observed within families between LGB people and their siblings (Balsam et al., 2005). Clear links have been established between specific rejecting behaviours by parents and caregivers with negative health problems in young LGB adults, including suicide attempts, depression, substance use, and unsafe sex (Ryan, Huebner, Diaz, & Sanches, 2009). Prior to the emergence of sexual orientation, gender atypical youth often report negative reactions from parents around their gender from an early age, leading to psychological distress, including posttraumatic stress disorder (D'Augelli et al., 2006). These results would suggest family of origin contributes, whether positively or negatively, to the experience of minority stress for LGB people, and particularly gender atypical individuals.

Vicarious Trauma

Vicarious trauma is thought to occur when awareness of other's trauma prompts traumatogenic responses, such as fear learning and cognitive schemata (Lanert, 2015). Vicarious trauma may be described as physiological threat responses accompanied by heightened awareness of threat, and chronic activation of threat responses that can lead to cumulative dysregulation and hyperactivation of the stress response (Lanert, 2015). Cognitive processes consistent with personal threat such as general schema about the

benevolence, predictability, and controllability of the world and of others are likely to intersect with physiological arousal (Lanert, 2015). Such responses can occur for LGB people after witnessing violence perpetrated toward others that they strongly identify with, such as when viewing LGB-related hate-crimes in the media (Balsam & Hughes, 2012; Lanert, 2015; Roberts et al., 2010). Lanert (2015) describes internal responses to such events including shock, surprise, and anger, persistent feelings of fear and vulnerability, as well as the developed belief that bias crimes represent purposeful messages of inferiority and social exclusion against the targeted group, while behavioural changes such as social withdrawal tend to be enacted with the aim of increasing personal safety. Given established links between trauma and mental health, it seems likely that such vicarious trauma processes contribute to higher prevalence of mental health disorders, particularly posttraumatic stress disorder, among LGB people (Lanert, 2015; Roberts et al., 2010).

Isolation

Isolation from other people, or lack of social connection, has been found to have damaging impacts on psychological and physical wellbeing (Holt-Lunstad, Smith, & Layton, 2010; House, 2001). LGB people are at greater risk of isolation resulting from both sexual minority stress processes, which is likely to be damaging to their mental health (Meyer, 2003). Particularly, links between isolation and depression are well-established in the literature and associated with a range of detrimental outcomes (Cacioppo, Hughes, Waite, Hawkey, & Thisted, 2006). Since depression rates are elevated among LGB people, it seems important to consider isolation as one of the main known causative links with depression in these populations (Aylaz, Akturk, Erci, Ozturk, & Aslan, 2012).

Isolation may be thought to occur for LGB people through many distal and proximal processes (Meyer, 2003). Isolation may be considered to occur variously through other people's rejection of one's LGB identity, or due to social withdrawal for the purposes of self-protection. Recent qualitative research (Levitt et al., 2016) found that LGB people experienced isolation in environments that are intolerant of sexual diversity, including religious communities, employers, and educational institutions. In attempts to prevent environmental stressors associated with being out, LGB people may choose to conceal their sexual minority status. Concealment is a strategy employed to prevent anticipated social rejection, but thwarts opportunities for genuine connection (Quinn & Chaudoir, 2009). Experiences of rejection and hostility are damaging at any age, and childhood is a particularly vulnerable time in terms of development. LGB adolescents are often highly isolated in

navigating their social world, the effects of which can last throughout the lifespan (Gordon, 2001; Harrison, 2003). Isolation caused by social rejection means limited resources in managing other aspects of minority stress for LGB people.

HIV/AIDS

HIV/AIDS prevalence estimates from the United States Centre for Disease Control and Prevention state that at the end of 2006, males accounted for 51 percent of HIV cases and of these, 51 percent were attributed to male-to-male sexual contact, compared with 33 percent among heterosexuals (Hall et al., 2008). Data by UNAIDS in 2010 reported that men who have sex with men (MSM) account for 15.4 percent of HIV/AIDS cases in North America, compared with less than 2 percent in the general population, while prevalence in Australia (as part of Oceania) is 4.4 percent among MSM compared with less than 1 percent in the general population (Beyrer et al., 2012). Higher prevalence of HIV/AIDS among gay and bisexual men mean these groups are confronted with many HIV/AIDS-related minority stressors, such as societal and internalised stigma (Meyer, 2003). Concerns around HIV/AIDS have been linked to several mental and physical health outcomes (Lyons et al., 2012). A review of the empirical literature found evidence for a bidirectional relationship between positive or unknown HIV status and substance abuse in gay and bisexual men (Green & Feinstein, 2012). For example, longitudinal research among a group of bereaved gay men found that differences in minority stressors were associated with HIV risk behaviour, substance use, and depressive symptoms over time (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008).

Minority stress associated with HIV/AIDS may impact gay and bisexual men differently. An Australian study found that while both gay and bisexual men were equally inclined to have protected sex with other men, bisexual men were less likely to engage in other HIV/AIDS protective behaviours such as condom use and HIV testing (Lyons et al., 2012). Lyons et al. (2012) considered whether this may result from bisexual men not identifying with the gay community that is targeted for HIV/AIDS awareness, that concealment of sexual identity means more barriers in addressing the topic, or if there is a lower estimation of HIV/AIDS risk among bisexual than gay men. Despite heightened risk, it has been observed that belonging to a supportive community is likely to provide a degree of protection against some of the stressors associated with HIV/AIDS for gay and bisexual men (Kubicek, McNeeley, Holloway, Weiss, & Kipke, 2013).

Gender and Sexual Orientation

Among researchers and the public alike, the concepts of gender and sexuality are often conflated, particularly regarding sexual minorities. Assumptions that gender will align in some reliable way with sexual orientation have not been well-supported, rendering measurement for research purposes somewhat problematic (Moradi, Mohr, et al., 2009). Outlining such conceptual and methodological issues in sexual minority research, Moradi, Mohr, et al. (2009), identify the lack of consensus among researcher on distinctions among separate but overlapping constructs such as sex, gender, gender expression, gender identity, transgender, gender variant, sexuality, sexual orientation, sexual identity, and sexual orientation identity (Moradi, Mohr, et al., 2009). Assumptions can arise, for example, around gender identification mimicking non-cisgender stereotypes among those with same-sex orientations, or conversely that identification as non-cisgender can trigger an assumption of same-sex attraction (Moradi, Mohr, et al., 2009). Such assumptions around gender are challenged by LGB individuals who do not fall neatly into male/female gender distinctions. With these considerations in mind, attempts have been made throughout this thesis to separate gender and sexuality to delineate their differences and similarities in relation to other concepts under investigation.

Gender

Similarities and differences among LGB people in experiences of minority stress are likely to be influenced by issues around gender (King et al., 2008; Lewis, Kholodkov, & Derlega, 2012; Szymanski et al., 2008a). LGB people of all genders often experience different types of social stressors associated with their sexuality, with some common themes (Hequembourg & Brallier, 2009). Females tend to have higher rates of depression than men overall (Cacioppo et al., 2006), which may be reflected among LGB women. In interviews of LGB people, lesbian women reported they were often regarded as sexually available by heterosexual men, even in the presence of a lesbian partner (Hequembourg & Brallier, 2009). Hequembourg and Brallier, 2009 found this experience was more common among lesbians with femme appearance, alongside negating messages of disbelief about their sexuality from other lesbians. Lesbian and bisexual woman have been found to be more likely to conceal their sexual orientation than GB men, while internalized homophobia among these women is more often associated with negative affect (DiPlacido, 1998; Lewis et al., 2012). By contrast with LB women, GB men reported more experiences of negative judgement, assumptions of promiscuity, marginalisation of their sexuality, and vigilance around victimisation

(Hequembourg & Brallier, 2009). Despite differences, Hequembourg and Brallier found LGB men and women reported that accessing sexuality-affirming social support within their respective communities helped to buffer the impacts of social stressors.

Researchers of gender and sexual orientation are confronted with some challenges in appropriate and reliable measurement of gender (Moradi, Mohr, et al., 2009). Gender has been described as the changing set of qualities that are culturally assigned to social categories, predominantly masculine and feminine (Lehavot & Simoni, 2011). However, Moradi, Mohr, et al. (2009) explain that this essentialist perspective, that there are two definitive genders, is at odds with a prevailing social constructionist dialogue that tends to defy established categories of gender and moves toward diverse self-definition. Accordingly, Moradi, Mohr, et al. (2009) challenge fundamental assumptions of gender as a binary construct; that identity and biological characteristics overwhelmingly align with either male or female gender. Given this dilemma, social cognitive theory can be drawn on to integrate both essentialist and social constructionist perspectives, holding that gender is constructed from a broad range of psychosocial experiences continuing throughout the life course (Bussey & Bandura, 1999). Such findings inform a case for more fluidity in defining gender than monolithic categories allow, although such categories do remain useful for research (Rosario et al., 1996).

Sexual Orientation

Sexual orientation tends to have great influence in the lives and experiences of LGB people. Heteronormativity is a term that describes how heterosexuality is upheld as the only normal and acceptable form of sexual orientation, reflected in a range of assumptions that are damaging to sexual minorities (Mink et al., 2014). By contrast, many view sexual orientation as endlessly diverse, with definitions resisting such binary concepts as being either heterosexual or homosexual (Diamond, 2005; Moradi, Mohr, et al., 2009; Worthington & Reynolds, 2009). Moradi, Mohr, et al. (2009) highlight the tendency for sexual orientation to defy essentialist categorisations and rather lend toward social constructionist conceptualisations of sexual complexity, diversity, and fluidity.

Illustrating differences due to sexual orientation, a review of the literature on substance abuse among LGB populations found that compared with the heterosexual population, lesbians are at greater risk of alcohol and substance use disorders, while gay men are at greater risk of abusing substances, and bisexuality further elevates this risk for both

men and women (Green & Feinstein, 2012). Differences within groups as well as between have been demonstrated. For example, Diamond (2005) draws on an 8-year longitudinal study in offering consideration for several subtypes of sexual orientation among same-sex attracted women, acknowledging a degree of fluidity may better capture sexual orientation. Research is needed to better delineate LGB minority stress mechanisms and will benefit from appropriate consideration of the impact of sexual orientation and gender. Complex differences and similarities render these considerations highly relevant in understanding sexual minority stress processes among LGB populations.

Among the most common forms of sexual orientation, bisexuality continues to be shrouded in some uncertainty for researchers, which parallels prevailing societal misconceptions around bisexuality as distinct from heterosexuality and homosexuality (Gurevich, Bower, Mathieson, & Dhayanandhan, 2007; Worthington & Reynolds, 2009). Bisexuality would seem to involve differing processes of minority stress to lesbians and gay men (Bostwick et al., 2014; Lehavot & Simoni, 2011). It has been suggested that the combination of sexual minority stress with stressors unique to bisexuality render outcomes poorer for bisexuals than lesbians and gay men (Ross et al., 2010). Bisexuals report experiences of discrimination, sometimes referred to as ‘biphobia’ from lesbians, gay men, as well as heterosexuals; perceiving themselves to be characterised as promiscuous, untrustworthy, and indecisive (Hequembourg & Brallier, 2009; Ross, Dobinson, & Eady, 2010). Indeed, bisexuals tend to be mistreated by the heterosexual and homosexual communities alike, with perceptions that they are untrustworthy, deceptive, or in denial about their homosexuality (Szymanski et al., 2008a). Bostwick et al. (2014) argue that being largely less conspicuous, bisexuals are more likely to suffer proximal stressors, such as concealment and fear of rejection, than overt forms of social hostility. However, bisexuals often feel rejected or disparaged by other sexual minorities, and thus may experience minority stress both outside and within heteronormative and sexually diverse communities (Lehavot & Simoni, 2011).

Bisexuals often report that their sexuality is non-binary, fluid, and more responsive to individual people than categories of person (Diamond, 2005; Gurevich et al., 2007). This conscious defiance of categorisation seems to preserve space for non-binary or fluid sexuality, while preventing opportunities for social support that would arise from a sense of belonging to a coherent community (Gurevich et al., 2007). Investigating this issue, Worthington and Reynolds (2009) countered some of these stereotypes, affirming that

bisexuality is a unique and legitimate identity, that pressures on bisexuals to conform to gay-straight binary identity can cause uncertainty, and that bisexuals differ from one another in important ways. Perhaps due to such pressures, bisexuals often lack the coherent sense of community that are accessible by lesbians and gay men. Shared identity can serve to buffer effects of social stress, an absence of which may render bisexuals more likely to conceal their identity in certain contexts in attempting to assimilate (Gurevich et al., 2007; Hequembourg & Brallier, 2009). Given evidence for disadvantage for those with bisexual orientation, bisexual orientation seems worthwhile considering within the current investigation of the minority stress related to sexual orientation.

Sociodemographic Influences

Sociodemographic influences are not a central focus of the present investigation, nevertheless, in a review of research on LGB psychosocial health it is important to acknowledge some of the sociodemographic influences that have previously been documented. Differences in age, employment, level of education, and residential settings can impact health and wellbeing through, for example, access to resources and household income. A community-based study among gay and bisexual men in New York found socioeconomic status influenced psychological distress associated with sexual orientation, gender identity, and cultural/ethnic identity, even when controlling for the influence of minority stress (Gamarel, Reisner, Parsons, & Golub, 2012). Global research similarly shows vast differences in attitudes toward sexual diversity, with the level of acceptance of sexual diversity far greater in more affluent and secular countries, and amongst younger people (Kohut et al., 2014). Investigating geographical influence, Flood and Hamilton (2005) compiled a large database of survey responses targeting homophobia, unveiling stark variations in homophobic attitudes, beliefs and values from place to place.

In addition to disadvantage compared to heterosexuals, there is some evidence that sexual orientation groups differ from each other on sociodemographic characteristics (Gates, 2012). Population based data in the United States was used to examine disability among LGB people (Fredriksen-Goldsen et al., 2012). Fredriksen-Goldsen et al. (2012) discovered that despite more engagement in higher education than heterosexual women, lesbian women were found to be more likely to be below the poverty level. Gay men had a higher education level than heterosexual men, and bisexual men lower than both. An example of intersecting minority identities, Latino gay and bisexual men residing in the United States demonstrated

positive associations between poverty, HIV status, and psychological distress (Diaz, Ayala, Bein, Henn, & Marin, 2001). Given differences for LGB broadly and between sexual orientation groups, sociodemographic characteristics including place of birth, age, employment, level of education, and residential settings are an important consideration for any research of LGB people.

Age

Growing older signals challenges for LGB people associated with the intersection of age-related stress and minority stress (Kuyper & Fokkema, 2010). Kuyper and Fokkema (2010) found minority stress is a contributor to loneliness among older Dutch LGB people, while Morrow (2001) found older gay men and lesbians are more likely to live alone than older heterosexuals. Despite such unique challenges, it seems older LGB people seem to age well in many ways (Morrow, 2001). Researchers have observed that older LGB people tend to be more open about their sexual orientation and thus more likely to experience overt social stress, but at the same time those who are 'out' tend to have more social supports that protect mental health (Lyons, Pitts, & Grierson, 2013; Riggle et al., 2008). Illustrating improved mental health with age, Lyons et al. (2013) found that for older gay men, full-time employment, being in a relationship, and lack of perceived social stigma, were all protective for mental health, and support from family and friends was most influential. By contrast, cross-cultural meta-analyses have shown LGB youth to be at greater risk than their elders of suicidal ideation, suicide attempts, and associated risk factors including substance abuse and reduced safety at school (Lewis, 2009; Rosario, et al., 2001). Explanations for the higher risk among LGB youth may include greater dependence on social support from educational institutions, peers, and family of origin (Lewis, 2009; Rosario, et al., 2001). Younger LGB people are less likely to have well-developed coping strategies such as seeking social support (Hatzenbuehler, 2009), navigating social threats to self-determination (Levitt et al., 2016), and attenuating damaging psychological processes such as rumination, hopelessness, and negative self-schemas (Hatzenbuehler, 2009). Despite the stressors associated with aging, LGB people seem to have reduced stress, or simply manage stress better, the older they get.

Employment

LGB people are more likely to experience harassment and discrimination in the workplace than heterosexuals (Meyer & Frost, 2013). Sexual orientation-based discrimination in the workplace can take forms of a climate of intolerance of sexual

minorities, heterosexism, and structural inequity around benefits and health care (Meyer & Frost, 2013). Meyer and Frost (2013) note that an absence of laws in place to prevent such discrimination means the rights of sexual minorities are not legally enforced. A common form of prevention of unequal treatment is to conceal sexual identity, which is discussed elsewhere as being a different source of stress that tends to be associated with internalised homophobia and vigilance (Pachankis, Goldfried, & Ramrattan, 2008; Smart & Wegner, 2000). Broadly speaking, employment tends to be associated with better outcomes, however, minority stress incurred in the workplace may complicate this common association for LGB people.

Education

Level of educational attainment tends to be higher among LGB than heterosexual populations, although this relative educational advantage does not tend to translate into higher earnings (Gates, 2012). Higher levels of education are surprising when considered that being LGB may be associated with less safety at school indicated by common reports of LGB-related discrimination (D'Augelli et al., 2006). Furthermore, regardless of sexual orientation, high school victimisation and poor psychosocial adjustment among LGB people is often associated with gender nonconformity (Toomey, Ryan, Diaz, Card, & Russell, 2010). While there do not appear to be any firm explanations for the higher educational attainment of LGB, it has been suggested this may be the result of a compensatory effort to buffer the effects of discrimination (Gates, 2012). Gates (2012) also suggests there may be relative attraction toward higher educational environments as more supportive for LGB people compared with the entering the workforce. Although the processes are unclear, level of education may play a role in experiences of minority stress for LGB people.

Residence

LGB people living in rural settings experience differences in minority stress, including more negative attitudes toward LGB people and restricted access to services, compared with LGB people living in urban settings (Puckett et al., 2011). Puckett et al. (2011) compared rural lesbian mothers with their urban counterparts, finding those in rural settings reported higher levels of discrimination from strangers, service providers, and helping professionals. Children of lesbian mothers in this study were less likely to disclose their parent's sexual orientation than children in urban settings, possibly due to cues toward intolerance in their social environment (Puckett et al., 2011). A study of gay men in Australia found those living in rural areas suffered lower self-esteem, lower life satisfaction, lower

social support, more psychological distress, more concerns with acceptance, more concerns around concealing their sexual identity, less emotional support, and a lower sense of belonging than urban gay men (Lyons, Hosking, & Rozbroj, 2015). Lyons et al. (2015) also found that although resilience among rural gay men was lower than their urban counterparts, this was not significant once adjusting for significant sociodemographic differences, including age, income, and state or territory of residence.

Consistent differences between residential settings are supported by cross-cultural research (Lewis, 2009). Meta-analyses across Europe and North America found geographical variations in mental health outcomes for LGB people, suggesting these may be attributable to policy regimes, health programming, and social constructions of LGB identity (Lewis, 2009). A qualitative study of the social/sexual environment for gay men living in rural America found that social hostility, potential violence, assimilation, and social and sexual isolation were clearly limiting possibilities for finding sex partners and thwarting proactive attitudes toward HIV prevention strategies (Williams, Bowen, & Horvath, 2005). Evidence suggests that rural settings are less tolerant of sexual orientation diversity may tend to occur more and are associated with poorer outcomes for LGB people living in rural settings, and that these outcomes are likely due to minority stress processes.

Relationship Status

Across cultures, relationships tend to serve a protective function for psychological health and wellbeing (Deiner, Gohm, Suh, & Oishi, 2000). While intimate relationships have the potential to buffer stress, specific challenges of minority stress have been shown to detrimentally impact LGB relationships (Meyer & Frost, 2013; Mohr & Daly, 2008). Negative views expressed in social, political, and cultural debate surrounding relationship issues such as same-sex marriage have the potential to cause distress for LGB people (Meyer & Frost, 2013). Internalised homophobia is thought to be a major barrier to intimacy and attachment in relationships (Meyer & Frost, 2013). In a longitudinal study of LGB relationships, Kendra and Mohr (2008) found internalised homonegativity was associated with decreased relationship satisfaction and attraction over six weeks. Research on lesbian couples similarly found that both internalized homophobia and social constraints in talking with friends about sexual identity issues were associated with frequency of psychological aggression toward a partner, defined as a range of methods to hurt, coerce, control or intimidate (Lewis, Milletich, Derlega, & Padilla, 2014). Evidence suggests the influence of

relationships on minority stress for LGB people has potential for both beneficial and damaging processes.

Summary

The general stress model holds that environmental stressors are cumulatively detrimental to mental and physical health. Minority groups tend to suffer from social stressors associated with their minority status. It has been outlined how the concept of minority stress can be used to describe a range of stressors, both distal and proximal, that specifically impact on lesbian, gay, and bisexual people (Meyer & Frost, 2013). Stressors specific to LGB people have been categorised into the subgroups of vigilance, harassment/discrimination, gender expression, parenting, victimisation, family of origin, vicarious trauma, isolation, and HIV/AIDS. These facets of minority stress have been proposed to cumulatively explain the poorer psychological and physical health among LGB people (Balsam et al., 2013). Different patterns of minority stress are seen among LGB people relative to gender and sexual orientation. Furthermore, sociodemographic differences such as age, employment, education and residential settings are likely to influence the impact and processes of sexual minority stress on LGB people.

Chapter 3: Psychological Approaches

In addressing any area of psychological ill-health, we must first decide on an appropriate approach; one that is effective both in treating distress and enhancing psychological wellbeing. In this chapter, models of mental health, potential avenues for treatment of psychological health generally, and how these may alleviate minority stress for LGB people more specifically, are considered.

Disease Model for Mental Health

From the mid-twentieth century, post-war socio-political conditions in western culture fostered a primary focus on treating disease within health disciplines (Seligman & Csikszentmihalyi, 2000). This disease model operates by identifying the most acute forms of disease, delineating associated symptoms, and developing effective treatments. Similarly influenced in the post-war era, a dominant disease focus that aligned with a medical framework emerged for understanding human psychology. Consequently, much current psychology is organised around aims to systematically identify, label, and characterise pathology, and use empirically-derived treatments to alleviate the most acute forms of psychological distress. Csikszentmihalyi (2000) argued that a pervasive emphasis on psychopathology signified a departure from traditional psychological pursuits. While psychology had always aimed to cure mental illness, up until the mid-twentieth century it had equally served to enhance human mental wellbeing and functioning, as well as nurture individual strengths and talents (Seligman & Csikszentmihalyi, 2000).

Current mainstream psychology has remained largely aligned with a medical disease model, primarily committed to diagnosis and treatment to reduce the most distressing symptoms in the most distressing individual conditions. While this is clearly an ethical approach, a critique of the disease model is that clinical emphasis on psychopathology can have unintended damaging consequences (Erikson, 1980; Maslow, 1970; Rogers, 1961). Many have argued the disease model prioritises and problematises the most painful aspects of individual experience, while dismissing or detracting from relevant contextual considerations, alternative perspectives, and individual strengths (Seligman & Csikszentmihalyi, 2000). With focus on the most acute forms of distress, the disease model of mental health can be seen to inadvertently contribute to the social challenges a sufferer faces. Identifying an individual as having a psychological problem continues to be experienced and practiced as 'labelling', both within and outside mental health services. This labelling is a potentially devastating source of

stigma, shame, and isolation that compounds existing psychopathology. In this way, an increased awareness of psychological problems can lend itself to discourse that emphasises personal problems; focussing on what aspect of a person's experience is less healthy or functional when compared with most people. Further, Seligman and Csikszentmihalyi (2000) decried that the disease model lens tends to distort perspectives toward harmful stereotyping, prejudice, and misinformation.

Emergence of Positive Psychology

Humanist and existential psychologists during the second half of the twentieth century may be considered to have laid the foundations for the emergence of positive psychology in the new millennium. Throughout his pioneering humanist psychology career, Carl Rogers (1961) advocated a person-centred psychotherapy approach for working with clients in a manner that would facilitate personal growth through a therapist's authenticity, unconditional warmth and acceptance, and an empathic understanding of the other person's world. Abraham Maslow (1970), a pioneer of humanist psychology, condemned treating people as a 'bag of symptoms', stressing the importance of focus on the positive qualities that people utilised in their evolution toward self-actualisation. Developmental psychologist, Erik Erikson (1980), proffered the benefits of nurturing a person's inner sense of worth throughout the lifespan, rather categorising problematic experiences as stages of life. Existential psychologist, Victor Frankl (1959), widely popularised the protective function of developing inner strengths in the face of adversity. Benefits to psychological wellbeing through personal strength development, such as sense of purpose, have since been convincingly established in the literature, and have notably been found to serve a protective function against suicidal ideation in clinical samples (Damon, Menon, & Cotton Bronk, 2003; Heisel & Flett, 2004; Kashdan & McKnight, 2013; M. E. P. Seligman et al., 2005). Such findings indicate that healthy psychological functioning might be achieved by clinical interventions supporting the development of meaningful life pursuits and personal strengths in those who are suffering.

Seminal proponents of humanist psychology developed strengths-based, person-centred and holistic approaches to the field, which expanded beyond the limitations of the disease paradigm (Erikson, 1980; Maslow, 1970; Rogers, 1961; Seligman & Csikszentmihalyi, 2000). Drawing from these influences, recent years have seen a cumulative ground swell of education, awareness, and compassion around diverse psychological experiences with an emphasis on what works well (Seligman & Csikszentmihalyi, 2000). Theorists expanding on humanist traditions (Ryan & Deci, 2000; Seligman &

Csikszentmihalyi, 2000) encourage evaluating positive aspects of human psychology such as the potential for growth and development of individual strengths. Self-determination theory (Ryan & Deci, 2000) provides an example of a strengths-based approach, holding that individuals have an innate potential that is realised under sufficiently nourishing conditions, allowing for autonomy, competence, and relatedness. These foci revive some traditional approaches to psychology and build on highly influential advances to psychology made despite the predominant disease model.

Drawing on humanist approaches, positive psychology is a burgeoning orientation in research, theory, and practice, and evidence for the efficacy of positive psychology interventions continues to grow (Seligman & Csikszentmihalyi, 2000; Seligman et al., 2005). Positive psychology has emerged as an alternative paradigm to the disease model of healthcare. By contrast with a disease model, positive psychologists increasingly turn their attention to understanding and promoting conditions that support mental health to flourish. Seligman and Csikszentmihalyi (2000) outline the central tenet of positive psychology is to provide perspectives on the human experience that serve to depathologise individuals' experience, beliefs, and actions while helping them to focus on their strengths. Positive psychology shifts clinical focus onto what is working well for people, achievements of personal growth, and capitalising on individual strengths. Within a positive psychology framework, strengths-based approaches are proactive in promoting wellbeing through nurturing positive aspects of health, providing more holistic and contextual understanding of the human condition, and serving to protect against development of acute disorder (Seligman & Csikszentmihalyi, 2000). This strength-based approach to psychology has been revived from its earlier influence and is again flourishing under the banner of positive psychology in recent decades (Seligman & Csikszentmihalyi, 2000). Strengths-based psychological approaches have garnered much support from practitioners, continuing to draw and evolve from an expanding body of literature that advances the efficacy of positive psychology interventions (Seligman et al., 2005).

Stress-related Growth

In line with the emergence of positive psychology, research has increasingly established that personal growth through adversity is a likely outcome of stressful events. Viktor Frankl (2006) forged a path for understanding growth through adversity, with insight born out of his experiences of imprisonment in a Nazi concentration camp during World War II and providing psychiatric care in clinical populations. Seligman and Csikszentmihalyi

(2000) particularly reflected on observations of Frankl (2006), as to how some individuals displayed psychological transcendence through extraordinarily traumatic experiences. Seligman and Csikszentmihalyi (2000) furthered Frankl's (2006) exploration into how and why some individuals demonstrated immense personal growth and inner strength, seeking to expand the reaches of psychology beyond pathology to include strength and virtue.

Stress-related growth is supported by the two continua notion (Keyes, 2005) that while negative experiences undoubtedly beget negative responses, personal growth in response to adverse life experiences is also a consistently observed phenomenon (Erikson, 1980; Helgeson, Reynolds, & Tomich, 2006; Meyer, 2003; Park et al., 1996; Seligman et al., 2005; Tedeschi & Calhoun, 1996). Researchers have long criticised sole evaluation of negative emotional states in considering psychological wellbeing as unduly emphasising deficit (Ryff et al., 2003). A key argument for this is that negative and positive emotion are not dichotomous states of psychological wellbeing, but rather have both distinct and interrelated aspects (Keyes, 2005; Waterman, 1993; Watson, Clark, & Tellegen, 1988). Given this, it seems understanding stress-related growth requires more than identifying negative outcomes resulting from life's myriad stresses, going further to investigate processes of psychological growth.

Processes of growth through adversity has been variously known in the literature as benefit finding, posttraumatic growth, and stress-related growth. Meta-analytic review of the literature on benefit finding and growth conducted by Helgeson et al. (2006) suggested clear trends among varied populations. Benefit finding has been linked to positive reappraisal, though it remains unclear whether positive reappraisal and benefit finding could be better understood as process and outcome or overlapping constructs (Helgeson et al., 2006). Helgeson et al. (2006) found that benefit finding was related to more avoidant thinking style, as well as more intrusive thoughts, about the stressor. That benefit finding was unrelated to anxiety, global distress, quality of life, and subjective physical health was considered to reflect a complex relationship of benefit finding with wellbeing (Helgeson et al., 2006). Although such inconsistencies raise uncertainties around how benefit finding relates to wellbeing outcomes, it was suggested these findings may reflect an adaptive response. Benefit finding may generate growth outcomes from trauma, while psychological distress may reflect either cognitive processing or a distinct process (Helgeson et al., 2006). This supports the idea that growth through adversity may not equate to an absence of stress-related distress; stress may provide conditions that facilitate personal growth. Park et al. (1996)

similarly concluded that stress-related growth can occur simultaneously with ongoing distress, so that the growth process is not dependent on diminished suffering.

An early investigator into personal identity development, Erik Erikson (1980), contributed a substantial body of work around life stages that provides theoretical basis for the concept of stress-related growth. Erikson's view that a person's identity is formed within the context of stressful developmental tasks or crises that are present at certain stages throughout the lifespan is now widely-accepted. Erikson viewed successful navigation of these challenging developmental tasks as enabling a healthy sense of identity to emerge within the context of each new life stage. For Erikson, the stressful nature of developmental crises provides the impetus for an individual to seek more effective forms of personal adjustment than previously required. In line with this theory, meta-analytic data suggests that benefit finding predicts more global distress when trauma occurred less than two years prior to sampling, indicating that distress associated with benefit finding occurs proximal to the experience of trauma and subsides over time (Helgeson et al., 2006). Helgeson et al. (2006) found that trauma has a moderating effect on wellbeing outcomes, such that greater positive wellbeing and less depression is seen more than two years, compared with less than two years, since trauma occurred. Tedeschi and Calhoun (1996) held a similar view, finding growth often comes from a painful event with a challenging resolution, so that this struggle to cope is the source of the benefit.

The literature suggests several avenues regarding stress-related growth that warrant investigation. In their suggestions for future research, Helgeson et al. (2006) called for better articulation of 'actual life changes' and processes that occur because of trauma, and which indicate personal growth. Drawing from a model by Schaefer and Moos (1992), Park et al. (1996) explored aetiology of stress-related growth, concluding that gender, personality, social support and coping strategies are influential. Park et al. (1996) found that stress-related growth was increased with intrinsic religiousness, satisfaction with social support, initial stressfulness of an event, coping strategies of positive reinterpretation and acceptance, and recent positive life events. Spirituality and religiousness are also well-established influences in the human capacity to rise above life's difficulties (Park et al., 1996; Rodriguez & Vaughan, 2013). In short, there are many ways in which growth through adversity may occur. When potential benefits of navigating through stress and trauma are considered, further investigation seems warranted.

Self-esteem

Crucial to any understanding of positive, healthy psychological wellbeing, is self-esteem. Rosenberg (1965) defined self-esteem as ‘relatively stable feelings of one’s own self-worth’, and links between self-esteem and psychological wellbeing have long been established (Roberts & Gotlib, 1997; Rosenberg, 1965). Rosenberg (1965) found that otherwise healthy adults with lower self-esteem exhibit more depressed affect, and that self-esteem and depression were negatively correlated among military servicemen who were also high in neuroticism and anxiety. Furthermore, higher self-esteem scores among high school students were correlated with more leadership, participation in class, and better reputation. Examining these findings, Rosenberg identified that rather than a feeling of superiority, those with high self-esteem tend to believe they are ‘good enough’, can self-criticise and consciously aim for continued improvement. Although a huge amount of research has been conducted on self-esteem, its predictors, and its outcomes, providing an in-depth review of self-esteem research is well beyond the scope of this study. It suffices to review literature on the role of self-esteem in relation with minority stress and psychological outcomes.

Beyond the established correlation between minority stress and negative outcomes is the question of ‘when’ and ‘how’ these relationships occur, which may be explored through potential moderators and mediators that explain or alter the relationship between discrimination and health outcomes (Clark et al., 1999; Hayes, 2018). The minority stress model (Meyer, 2003) suggests a range of coping strategies and supportive conditions that buffer the deleterious effect of minority stress. Self-esteem has long been theorised to buffer the relationship between negative events and depression (Brown & Harris, 1978), whereby positive self-image lessens distress in the face of discriminatory events. Self-esteem is commonly identified as serving a protective or moderating function in the relationship between stressful experiences and psychological distress (Clarke, 1999; Szymanski, 2009; Szymanski et al., 2008a). Some of the literature supports the notion that self-esteem serves as a moderator of the relationship between well-being and discrimination for racial and ethnic minorities (Clark, 1999; Porter & Washington, 1993; Wei, et al., 2008). Others have found evidence for self-esteem has as a mediator rather than moderator of racism-related stress (Harrell, 2000; Liang and Fassinger, 2008). Porter and Washington (1993) reviewed theoretical perspectives on how self-esteem influences the wellbeing of several ethnic and racial minorities, finding multidimensional models were needed. The evidence to date is inconclusive regarding the role of self-esteem in the established relationship between

minority stress and psychological outcomes and further exploration using moderation and mediation models is indicated.

Hedonic and Eudaimonic Wellbeing

Eudaimonic and hedonic wellbeing are under increasing investigation by positive psychology researchers as potential functions of wellbeing (Huta, 2015; Ryan & Deci, 2001; Waterman, 2013), and may be considered as mechanisms through which personal growth, purpose, and increased wellbeing may occur. The concepts of eudaimonic and hedonic wellbeing overlap in some ways but derive from two distinct philosophical traditions (Reich, Zautra, & David, 2003; Riggle et al., 2008; Ryff & Keyes, 1995). Etymologically, the word *eudaimonia* is derived from the ancient Greek ‘eu’ meaning ‘good’ and ‘daimōn’ meaning ‘spirit’. The Greek philosopher, Aristotle, argued that eudaimonia, defined as a life of ‘virtuous activity in accordance with reason’, is the ethical path to happiness and human flourishing. By contrast, the word *hedonia* is derived from the ancient Greek ‘hedone’ meaning ‘pleasure’ and encapsulates notions of individual wellbeing that can be traced back through the history books. In 4th century BCE Aristippus of Cyrene and his followers held that hedonia, the striving to maximise pleasure and to minimise pain or discomfort, was life’s highest ethical good. While both eudaimonia and hedonic wellbeing will bring about positive individual outcomes, they are conceptually different pathways to happiness. Psychologists in more recent times continue the debate around the respective benefits of eudaimonia and hedonia for wellbeing (Huta, 2015; Ryan & Deci, 2001; Waterman, 2013).

Eudaimonic wellbeing is enacted through self-realisation, functioning optimally, and engagement in meaningful activity. Waterman (1993) describes eudaimonic wellbeing as requiring a person to live according with their ‘daimon’, or true self, so that life activities are engaged in holistically and are congruent with deeply held values. Waterman (1993) described ‘personal expressiveness’ as the state of aliveness experienced by a person who is acting in accordance with their daimon. Similarities have been found between personal expressiveness and hedonia in that they both involve a degree of fulfilment. However, while hedonia tends to involve a more relaxed, effortless state of wellbeing, eudaimonia involves engaging, meeting challenges, requiring committed effort toward personal growth (Waterman, 1993). Ryan and Deci (2000), outlined self-determination theory that comprises eudaimonia of autonomy, competence, and relatedness, which lead to psychological growth, integrity, wellbeing, vitality, and self-congruence. Deci & Ryan (2001), then operationalised psychological wellbeing akin to eudaimonia with six dimensions of human actualisation:

autonomy, personal growth, self-acceptance, life purpose, mastery, and positive relatedness. It is notable that eudaimonia does not equate to more positive and less negative emotion, but to experiencing vital, holistic, and authentic emotional attunement with self (Ryan & Deci, 2001). Given this, emotional expression, disclosure, compartmentalisation, and emotion regulation are all likely to play a role in eudaimonic wellbeing (Ryan & Deci, 2001), while health also appears to improve with eudaimonic living (Ryff et al., 2003).

Contrasting with eudaimonia, hedonic wellbeing is conceptualised as the enjoyment of pleasant experiences, attaining the maximum amount of pleasure with the least amount of pain (Ryan & Deci, 2001). Ryan and Deci (2001) write that hedonia includes indulgence in both physical and psychological pleasures, the setting and attainment of individualistic goals, and other idiosyncratic sources of pleasure. Hedonia has been equated with the term ‘subjective wellbeing’, consisting of life satisfaction, presence of positive mood, and absence of negative mood, and empirically characterised as having more regular experiences of positive emotion, rather than more intense experiences (Ryan & Deci, 2001). Distinctions between eudaimonia and hedonia are around whether happiness is achieved simply with more regular positive affect and less negative affect, and the extent to which pleasure or happiness is a primary focus. For example, eudaimonia might involve the authentic experience of emotional pain that is naturally associated with grief and loss, while the hedonia involves simply reducing painful emotional experiences and seeking pleasurable ones. While hedonia may be effective in achieving a form of happiness immediately, psychological health may suffer the potential side-effects of hedonia over time, such as repression, suppression, detachment, withdrawing, and other means of pain avoidance. Ryan and Deci (2001), highlighted that positive affect is not a specific aim but a natural by-product of living eudaimonically, while those who directly seek hedonic wellbeing may undermine their own efforts to achieve wellbeing over time. Eudaimonia may represent one avenue for achieving personal growth through hardship, enhancing wellbeing in a manner distinct from both reducing psychopathology or enhancing hedonia (Aristotle, 1985; Frankl, 2006; Ryff & Keyes, 1995).

Positive Psychology for Sexual Minorities

An awareness of the mental health needs of sexual minority groups has increasingly emerged in professions seeking to promote psychological wellbeing (Leonard et al., 2012; Lesbian Gay and Bisexual (LGB) Youth Sexual Orientation Measurement Work Group, 2003). Despite undeniably negative outcomes, more complexity can be viewed among stories

of social adversity for LGB people. Over the last decade, positive psychology has informed strengths-based approaches, providing an alternative or complementary approach to the disease model in therapeutic work with LGB individuals (Craig, et al., 2012). Qualitative positive psychology research has highlighted the self-reported personal strengths developed to cope with LGB-related challenges, providing some basis for strengths-based therapies (Riggle et al., 2008). Based on evidence that more stigmatised groups sometimes exhibit better psychological wellbeing, Helgeson et al. (2006), posited that social adversity tends to promote a stronger pattern of benefit finding. We may consider that while being LGB can be a considerable source of stress, it can also entail opportunities for personal growth (Ryff et al., 2003).

Positive psychology may uncover a range of strengths associated with being LGB that suggest avenues for further research and intervention. Minority coping, explains Meyer (2003), can be viewed as certain ameliorating factors in response to minority stress arising within minority groups, such as personal resilience, group solidarity and cohesiveness, and in-group acceptance. Ryff et al. (2003) put forward evidence that the challenges of minority life can enable many individuals to hone a sense of purpose and growth that is psychologically protective. Further investigation seems potentially beneficial within LGB populations widely found to be particularly at risk of suicidality (Meyer, 2003). Kwon (2013) provided a model of psychological health among LGB populations, finding lowered reactivity to prejudice when buffered by social support, emotional openness, and future orientation. Research asking LGB participants to provide accounts of resilience, particularly in relation to the ways in which they were caring for themselves, found participants were engaged in a wide variety of activities that supported their well-being related to social connections, self-care, interests and hobbies, and professional help (Dickinson & Adams, 2014).

Overcoming negative self-evaluation and nurturing positive self-evaluation are primary aims of individual development, and thus comprise central themes of gay-affirmative therapies (Kwon, 2013; Ryff et al., 2003). LGB individuals must constantly negotiate cultural realities to foster a flexible worldview in which continua replace polarizations, ambiguity is comfortable, and differences are manageable (Moradi, Mohr, et al., 2009). Moradi, Mohr, et al. (2009) suggest this minority perspective may foster freedom from conventional ways of seeing the world and cultivate abilities to challenge assumptions. An example of normative creativity among LGB individuals might be the construction of families of choice composed of partner and friend networks (Moradi, Mohr, et al., 2009). Rodriguez and Vaughan (2013)

called for further investigation into empowerment for LGB people in individual, communal and organisational contexts, as empowerment is considered to promote hardiness toward commitment, control and challenge. Similarly, Meyer (2015) calls for research into interventions for community resilience alongside individual resilience.

Areas of stress-related growth among LGB populations are still being categorised (Vaughan & Waehler, 2009). Growth experiences considered unique to sexual minorities may include sexual freedom/exploration, particularly for bisexually-identified individuals, and a questioning of artificial dichotomies of both gender and sexual orientation (Konik & Crawford, 2004; Riggle et al., 2008). Kwon (2013) argued sexual minorities tend to demonstrate stress-related growth through an enhanced capacity to serve as positive role models for others and get involved in social justice and activism. Riggle et al. (2008) conducted qualitative research into self-identified positive aspects of being gay that may be viewed as beneficial to the individual themselves, but also to the wider social setting in which they are engaged. These included: disclosure and social support (belonging to a community, creating families of choice, having strong connections with others, and serving as positive role models), insight into and empathy for others (authentic self and honesty, personal insight and sense of self, increased empathy and compassion for others, and social justice and activism), and freedom from societal definitions of roles (freedom from gender-specific roles and exploring sexuality and relationships) (Riggle & Rostosky, 2012; Riggle et al., 2008).

Spirituality and religiousness are well-established influences in the human capacity to rise above life's difficulties that have relevance for LGB individuals (Park et al., 1996; Rodriguez & Vaughan, 2013). In a variety of forms, spirituality and religion are likely sources of personal strength and growth among LGB people. However, LGB people may be restricted from participation in many religious communities and thus need to creatively adapt to benefit from this historically broad source of human strength. Utilising a positive psychology framework, Rodriguez and Vaughan (2013) examined the capacity of many gay and lesbian people of faith to positively integrate potentially disparate religious and sexual identities, although a large proportion may not attempt or achieve this resolution. There are many gay and lesbian religious institutions that either welcome sexual minorities into their congregations or even administer directly to them, providing specific spiritual and religious guidance for members of sexual minorities (Rodriguez & Vaughan, 2013). These institutions help to alleviate identity conflict associated with prejudice toward sexual diversity often displayed in traditional churches, thus promoting and assisting stress-related growth.

Given the higher prevalence of psychological distress among sexual minorities it is important to consider avenues for psychological intervention. It has been outlined here that positive psychology has some efficacy among sexual minorities, and that eudaimonic wellbeing tends to serve as a protective factor against psychological distress. However, research in this area is currently scarce, as eudaimonic wellbeing has been only preliminarily investigated in relation to sexual minorities. It is proposed that eudaimonic wellbeing as a protective factor against psychological distress and a support to psychological wellbeing could add to and strengthen the body of work recommending positive psychology interventions for sexual minorities.

Self-Esteem Among Sexual Minorities

It seems evident that attempts at increasing understanding of the relationship between minority stress and psychological distress among LGB people should seek to invoke the protective role of self-esteem. Alongside other minorities, the relationship between minority stress and psychological distress is influenced by self-esteem among LGB individuals (Rosario, et al., 2001). Szymanski et al. (2008a) found self-esteem and social support mediated the relationship between internalised homonegativity and psychosocial health, such that self-esteem supports psychosocial health in the presence of internalised homonegativity. In terms of health behaviour, Rosario et al. (2001) found higher self-esteem among LGB participants was associated with more self-protective sexual practices. Proposed models strongly suggest LGB individuals with low self-esteem would be at increased vulnerability to psychological distress in the face of minority stress, and vice versa (Wei, et al., 2008). The precise role of self-esteem as mediator or moderator in the relationship between minority stress and psychological distress remains under investigation.

Group processes can be protective, such that membership in a devalued social group can bolster self-esteem via collective self-esteem and group socialisation (Katz, Joiner, & Kwon, 2002; Liang & Fassinger, 2008). Katz et al. (2002) found that lesbian adolescents and young adults with higher self-esteem were more likely to feel self-efficacy and have positive social supports. These youths felt more empowered, perceived more benefit regarding adverse life experiences, engendered good constitutional factors, and were more likely to employ healthy coping skills that foster mental health (Kulkin, 2006). LGB individuals have described that living openly, practicing self-acceptance, and contributing to their LGB communities boosted their self-esteem (Levitt et al., 2016). Levitt et al. (2016) concluded that

such social involvement was rooted in a shared sense of struggle and fostered hope despite a burdensome sense of community responsibility. Strengths-based interventions have been successfully aimed at increasing self-esteem among multiethnic sexual minority youth (Craig, et al., 2012). It seems evident self-esteem can be bolstered by group level processes as well as individual, and such processes are worth identifying toward tailoring strengths-based intervention for LGB people.

Eudaimonia Among Sexual Minorities

Communally-oriented activity has been recommended as a means of addressing perceived burdensomeness and rejection that tends to moderate suicidal ideation in LGB adolescents (Hill & Pettit, 2012). Eudaimonic wellbeing pertains to active personal expression and acting in positive ways that extend beyond one's immediate comfort to benefit self and community (Aristotle, 1985; Ryff, 1989; Ryff & Keyes, 1995; Ryff & Singer, 1998). Altruism and pro-social behaviour has been found to be a product of environment, rather than biological influences (Krueger, Hicks, & McGue, 2001; Rushton, 2004), which suggests that eudaimonic activity can be fostered in, and further promote, positive social environments. The importance of social relatedness to psychological wellbeing is immense, and some social environments and conditions nurture connection more than others (Seligman & Csikszentmihalyi, 2000). Relationship-enhancing behaviour may be more in line with the eudaimonic approach to life and result in greater general wellbeing. Modelled on early caregiver relationships, the quality of social attachment, rather than quantity, has a pervasive impact on psychological wellbeing (Bowlby, 1969). Lack of quality social interaction tends to be associated with a range of negative outcomes, more negative emotional experiences, and poor physical health (Cacioppo et al., 2006; Choenarom, Williams, & Hagerty, 2005). Secure attachments may foster wellbeing largely through enabling individuals to achieve competence, autonomy, and relatedness, i.e. self-determination (Ryan & Deci, 2001).

Eudaimonic wellbeing means individuals tend to respond to their experiences in a manner that not only benefits themselves, but also their wider social environment, thus addressing individual and communal level aspects concurrently (Frankl, 2006; Riggle et al., 2008; Ryff et al., 2003). Illustrating this are findings that giving support to others, rather than receiving it, has been shown to reduce risk of mortality in older adults (Brown, Nesse, Vinokur, & Smith, 2003). It has been suggested that altruistic goals, which may be enacted via eudaimonic activity, appear to be particularly influenced by an individual's social environment, rather than attributable to biological trait-like factors (Krueger & Schkade,

2008). Social influences supporting a more eudaimonic approach to living for individuals and communities may include living in accordance with values, finding purpose and meaning, and engaging with the social environment to contribute and establish quality relationships, which are all likely to benefit LGB individuals (Kashdan & McKnight, 2013). Given this, investigating eudaimonia may answer calls for research into interventions for community resilience alongside individual resilience in the face of minority stress (Meyer, 2015).

Chapter 4: Research Aims

Worse mental health outcomes tend to be observed in LGB populations, which has been attributed to sexual minority stress (Meyer, 2013). Matching theory is that social support will be most protective against stress when it addresses stressors specifically (Doty, Willoughby, Lindahl, & Malik, 2010). If LGB individuals would benefit most from support that specifically matches their stressors, it is of interest to researchers to more clearly delineate which minority stressors tend to relate to aspects of psychological distress. To this end, this study will initially explore how sexual minority stressors relate with psychological distress. Psychological distress is evidenced by relatively high levels of depression, anxiety and stress, and relatively low self-esteem (Lovibond & Lovibond, 1995; Rosenberg, 1965).

Sexual minority stress is theoretically comprised of a range of stressors stemming from an LGB person's social environment and internal psychology. Sources of sexual minority stress can include vigilance, harassment and discrimination, gender expression, parenting, victimisation, family of origin, vicarious trauma, isolation, and HIV/AIDS in accordance with seminal research (Balsam, Beadnell and Malina, 2013; Meyer, 2003). Although internalised heterosexism / homophobia is often mentioned in sexual minority stress theory (Meyer, 2003), Balsam, Beadnell and Malina (2013) found it was rarely mentioned by participants in the qualitative phase of developing their measure of sexual minority stressors and is therefore not included in this investigation. Broadly speaking it is anticipated that minority stressors would co-occur with greater psychological distress (depression, anxiety and stress), and lower self-esteem. However, it is less clear which aspects of minority stress co-occur with which aspects of poorer mental health for LGB people. Therefore, no specific predictions regarding the relative influence of each stressor on each of the psychological outcomes are made.

Similarities in the experiences of stress would be expected between sexual minority groups. However, expected differences may centre around sexual orientation and gender as gay men, lesbians, bisexual men and bisexual women would be expected to differ in some minority stress processes. For example, stress around HIV/AIDS predominantly concern sexual minority men, while all women are generally found to experience greater levels of depression (Rosario et al., 2009). The influence of sociodemographic components such as age, education level, occupation, and residential setting will provide contextual information on sexual minority stress and psychological distress for LGB people. For example, previous

findings that wellbeing tends to increase with age for gay men suggest similar findings within an LGB sample (Bybee et al., 2009). Education levels and occupation have also been shown to have a positive moderating effect on several aspects of psychological wellbeing in cultural minorities (Ryff et al., 2003), which is expected to be replicated in the current study. Such findings should add to the growing body of research on stress processes with other LGB samples to enable more targeted interventions based on the specific challenges, similarities, and differences of LGB individuals (Balsam et al., 2013; Denton et al., 2014; Hatzenbuehler, 2009; Hatzenbuehler et al., 2009; Hequembourg & Brallier, 2009; Meyer, 2013).

Despite often compromised mental and physical wellbeing due to minority stress, it seems also evident that LGB people display a degree of fortitude in meeting these challenges. This project endeavours to follow a positive psychology approach (Seligman, et al., 2005) toward improved strengths-based understanding of the relationship between minority stress, psychological distress, and psychological wellbeing within LGB populations. Better understanding of LGB strengths, so that they may be reinforced, would be beneficial in mitigating the damaging effects of minority stress (Craig, et al. 2012; Meyer, 2003). Evidence of LGB strengths would also support the notion that challenges inherent in sexual minority stress may contain opportunities for personal growth for LGB people (Riggle et al., 2008; Ryff et al., 2003). Such findings may reflect two-continua processes associated with stress-related growth (Meyer, 2003), and align with the notion that stress can serve to hone a sense of purpose and growth, posing a protective dimension of psychological wellbeing in the face of adversity (Frankl, 2006; Ryff, 1989; Ryff et al., 2003).

The longstanding 'stress buffering model' (Cohen & Wills, 1985) is that negative outcomes of stress may be buffered by social ties. In a similar vein, the literature review in Chapter 3 outlined how eudaimonia, more than hedonia, may serve to buffer wellbeing of LGB people against damages caused by stress. Evidence suggests LGB people tend to engage in an effortful drive to living in a way which is self-congruent with one's minority identity, despite conflicting needs to self-protect from social stress (Meyer, 1995). LGB people must overcome the challenges of minority stress, often through efforts to form communities, engage in activism, and other forms of collective support. Eudaimonic living has been described as acting in accordance with deeply held personal values, optimal functioning, and enhancing one's sense of connectedness with the broader social environment (Waterman, 1993). Given these overlapping concepts, it is postulated that successful navigation of sexual

minority stress by LGB people may be enhanced by activities encapsulated by the concepts of eudaimonia.

While likely to suffer from any form of stress, self-esteem is also proposed to serve a protective function against psychological distress (Rosenberg, 1965). Due to conceptual overlap between eudaimonic wellbeing and self-esteem, it might be anticipated that engaging in more eudaimonic activity would be associated with greater self-esteem (Ryan & Deci, 2000; Ryff, et. al., 2003). Although the literature remains unclear around the role of self-esteem in the relationship between minority stress and mental health outcomes, many mediation and moderation models have been proposed (Craig et al., 2012; Liang, et al. 2008). Actively engaging with challenges seems likely to bolster a sense of self-worth and confidence in one's own worth and abilities. Greater self-esteem is likely to be associated with more eudaimonic activity and lower psychological distress. Further, self-esteem may explain the negative association between eudaimonia and psychological distress. A mediation model may validate such a role of self-esteem in relationships between minority stress and psychological distress. Such findings would indicate that self-esteem is not only a consequence of sexual minority stress but may also be harnessed as a protective factor against negative outcomes, and that eudaimonic activity can enhance self-esteem.

Combining the aims outlined, this research broadly aims to highlight the most influential minority stressors, explore between group differences, as well as potential advantages for LGB people that may be drawn upon to assist coping with minority stress. The following specific hypotheses are also proposed:

Greater levels of psychopathology in terms of depression, anxiety, and stress, are expected to be associated greater levels of sexual minority stressors among LGB individuals.

Lower levels of self-esteem are expected to be associated with greater levels of sexual minority stress among LGB people.

Greater levels of eudaimonia, but not hedonia, are expected to weaken the positive association between minority stress experiences and psychological distress.

Self-esteem is expected to account for the inverse association expected between eudaimonic activity and psychological distress.

Contribution to Psychology Literature and Practice

Benefit to society may arise from further developing our understanding of the both challenges and strengths that can occur for LGB people. This study endeavours to better delineate adverse psychological effects of minority stress experienced by LGB people, as well as to explore the potential for the active development of aspects of psychological wellbeing serving to ameliorate psychological distress. Potential for therapeutic benefit would arise through enhanced understanding of relationships between aspects of LGB minority stress, psychological distress, and psychological wellbeing. Such findings would be useful in informing affirmative psychological interventions for LGB identified persons that address wellbeing alongside symptom reduction. Better understanding may be used to foster specific personal development interventions within a positive psychology framework. LGB individuals may benefit especially from positive psychology intervention, informed by better understanding of minority stress processes and protective factors.

It is hoped to demonstrate that despite minority stress, LGB people tend to possess psychological strengths, which provide a source of resilience to adverse social experiences. The concept of stress-related growth provides a template for fostering tendencies for growth and development through adverse experiences. Although identifying strengths could reflect a developmental or growth aspect, this can only be confirmed in future research as the present study is limited by a cross-sectional design. Eudaimonic activity has been increasingly recommended as an avenue to benefit psychological wellbeing (Steger, Kashdan, & Oishi, 2008). Positive psychology may utilise interventions that promote eudaimonic activity for LGB individuals experiencing psychological distress associated with minority stress. Identifying whether and how psychological distress may be buffered by engaging in eudaimonic activities would support the utility of a positive psychology approach.

Chapter 5: Method

Participants

Recruitment

Data were collected from 156 self-selected participants who completed an online survey. The age of participants ranged from 18 to 70 years ($M = 36.32$, $SD = 13.25$); one participant did not disclose her age. The sample was comprised of females ($n = 83$, 53.2%), males ($n = 58$, 37.2%), 3 transgender females ($n = 3$, 1.9%), 3 transgender males ($n = 3$, 1.9%), and ‘other’ ($n = 9$, 5.8%).

For the most part, participants were recruited through advertisements in status updates on the investigators’ personal Facebook pages, which included a direct link to the online survey. The investigators also encouraged their contacts on Facebook to share the advertisement and survey link among their own Facebook networks to expand the reach of the advertisement and potentially increase participation in the survey. Additional paid advertisements were placed on Facebook and on the online version of the publication ‘Lesbians on the Loose’ (LOTL), at <http://www.lotl.com>. Finally, a brief description of the study and the survey link were included in an online periodical publication, the ‘Gay News Network’, at <http://gaynewsnetwork.com.au>. In the advertisements, potential participants were presented with the title of the study, a brief description of the primary aim of the study (i.e., ‘to research how adverse social experiences impact the psychological wellbeing of those who identify as gay, lesbian and bisexual’), and the online survey link.

Measures

Participants completed several established measures within an online survey. A series of questions were presented to gain information on participant demographics. First, participants were asked to report their age as well as to specify their gender from options of ‘male’, ‘female’, ‘transgender female’, ‘transgender male’, or ‘other’ (if the latter, participants were asked to specify further in their own words). A transgender option was included as this gender does not preclude identifying as lesbian, gay, or bisexual. However, transgender people were not included in some analyses comparing gender differences due to small numbers. Participants were asked their sexual orientation, with options of ‘gay’, ‘lesbian’, ‘bisexual male’, ‘bisexual female’, or ‘other’ (as with gender, participants selecting ‘other’ for their sexual orientation were asked to specify further in their own words). Cultural background was identified by asking participants to specify what country they were born in

and their racial or ethnic background. Participants provided free responses which were later coded by investigator. Residential setting was identified by asking participants where they currently reside (city, state, country) and to select an option that best describes the area in which they live from ('capital city/inner suburban', 'outer suburban', 'regional centre or town', or 'rural'). Socioeconomic indicators were indicated by asking participants for their education level from 'primary school only', 'some secondary school', 'all of secondary school', 'tertiary diploma/trade certificate', 'university degree (undergraduate)', or 'university degree (postgraduate)'. Options provided for employment status were 'full-time work', 'part-time work', 'casual work', 'unemployed', 'retired', 'household duties', 'student', 'volunteer' or 'other' (asked to specify). Participants were also asked whether they were currently in a relationship, with the response options 'no, I am single', 'yes, with a man', 'yes, with a woman', 'yes, with transgender man', 'yes, with a transgender woman'. Participants then completed the following measures in the order given.

Minority Stress

The Daily Heterosexist Experiences Questionnaire (DHEQ – see Appendix A) (Balsam et al., 2013) was selected to assess levels of different forms of minority stress potentially experienced by the participants in this study. The DHEQ was developed to measure diverse aspects of minority stress specific to LGB populations, also referred to as 'heterosexism' (Meyer, 2003). The DHEQ is a self-report measure of a broad range of experiences of widespread negative social attitudes and behaviours that are commonly faced by sexual minorities. The DHEQ was developed to capture broad LGB-specific minority stressors, ranging from what Meyer (2003) described as distal stressors, such as victimisation, through to more proximal stressors, such as internalised homophobia. The DHEQ instrument is applicable among diverse sexual, gender identity, and ethnically diverse samples (Balsam et al., 2013). DHEQ was developed using focus groups and in-depth semi-structured interviews about the unique experiences of participants recruited from ethnically and geographically diverse backgrounds (Balsam et al., 2013). The DHEQ content was drawn from open-ended discussions with LGB persons, tested on sample groups, statistical analyses to determine the most parsimonious model, and refined into 50 items comprising nine subscales.

The items of the DHEQ relate to various experiences of social hardship specific to LGB people. Harassment and discrimination subscale items measure direct heterosexist

experiences (e.g., 'Being called names such as 'fag' or 'dyke)'), while victimisation subscale items look at assaultive behaviour targeting LGB people (e.g., 'Being raped or sexually assaulted because you are LGB'). A theme of social rejection spans several subscales. Gender expression items explore non-acceptance experienced by those who do not follow gender norms of self-presentation (e.g., 'Being misunderstood by people because of your gender expression'). Family of origin items measure rejection experienced from parents and siblings (e.g., 'Being rejected by your mother because you are LGB'). Parenting items look at anti-LGBT discrimination that occurs in settings related to children and parenting (e.g., 'Your children being rejected by other children because you are LGB'). Isolation items explore difficulties connecting with other related to being LGB (eg. 'Difficulty finding LGB friends'). More proximal effects of internalised minority stress also occur for LGB people. Vicarious trauma items measure indirect experiences of discrimination and harassment that are internalised (e.g., 'Hearing politicians saying negative things about LGB people'). Vigilance items look at constant anticipation of harm often felt by sexual minorities (e.g., 'Watching what you say and do around heterosexual people'). Finally, HIV/AIDS subscale items explore stressors associated with HIV/AIDS (e.g., 'Worry about getting HIV/AIDS').

Participants were asked to respond to the DHEQ items in regard to their experiences over the last 12 months. Response options for all items are on a 6-point Likert scale: 0 = 'Did not happen/not applicable to me', 1 = 'It happened, and it bothered me NOT AT ALL', 2 = 'It happened, and it bothered me A LITTLE BIT', 3 = 'It happened, and it bothered me MODERATELY', 4 = 'It happened, and it bothered me QUITE A BIT', 5 = 'It happened, and it bothered me EXTREMELY'. For calculating results, subscale item ratings are added to obtain subscale scores, and the total score is the sum of all item ratings (Balsam et al., 2013).

The DHEQ was verified by Balsam et al. (2013) as having acceptable internal reliability for a composite total of 50 items (Cronbach's $\alpha = .92$), as well as for each of nine DHEQ subscales factors: gender expression (Cronbach's $\alpha=.86$), vigilance (Cronbach's $\alpha=.86$), parenting (Cronbach's $\alpha=.83$), harassment and discrimination (Cronbach's $\alpha=.85$), vicarious trauma (Cronbach's $\alpha=.82$), family of origin (Cronbach's $\alpha=.79$), HIV/AIDS (Cronbach's $\alpha=.79$), victimisation (Cronbach's $\alpha=.87$), and isolation (Cronbach's $\alpha=.76$). Construct validity was verified through finding moderate correlations with established measures of psychological distress (e.g., The Perceived Stress Short Scale Form; Cohen, Kamarck, & Mermelstein, 1983). Concurrent validity was supported by moderate correlations with two items generally measuring LGB discrimination ('How much homophobia interfered

with your ability to live a fulfilling and productive life?’ and ‘How different do you think your life would be if you had not had to deal with the challenges of being LGBT?’) (Balsam et al., 2013). ‘Outness’, as measured by The Outness Inventory (J. Mohr & Fassinger, 2000), was found to be associated with three DHEQ subscales (vigilance, parenting, and isolation) in expected directions. A strength of the DHEQ is that it can be used with LGBT people regardless of sexual identity, gender identity or ethnic identity. The current study found reliability scores approaching those reported by Balsam et al. (2013) using Cronbach’s alpha: total composite DHEQ score (Cronbach’s $\alpha=.89$), vigilance (Cronbach’s $\alpha=.83$), harassment and discrimination (Cronbach’s $\alpha=.81$), gender expression (Cronbach’s $\alpha=.80$), parenting (Cronbach’s $\alpha=.62$), victimisation (Cronbach’s $\alpha=.77$), family of origin (Cronbach’s $\alpha=.83$), vicarious trauma (Cronbach’s $\alpha=.77$), isolation (Cronbach’s $\alpha=.74$), and HIV/AIDS (Cronbach’s $\alpha=.72$).

Hedonic and Eudaimonic Wellbeing

The Hedonic and Eudaimonic Motives for Activities (HEMA) scale (Huta & Ryan, 2010) is a self-report measure that assesses people’s motives for conducting various activities in their daily lives. Waterman (1993) was instrumental in reviving the ancient discussion around hedonia and eudaimonia in recent decades, a discussion which began with Greek philosophers Aristippus and Aristotle in the 4th century BCE. To reiterate, according with relevant literature (Waterman, 1993), activities that are motivated by seeking pleasure or comfort can be thought of as hedonic, whereas activities motivated by seeking to use or develop the best in oneself can be defined as eudaimonic. Huta and Ryan (2010) propose the HEMA enables researchers to determine whether motivation to undertake various activities are more in line with hedonic or eudaimonic motivations within any given participant. Strengths of the HEMA are that it allows assessment of underlying motives of any activity, distinguishes eudaimonia and hedonia from other wellbeing outcomes, and allows parallel examination of both eudaimonia and hedonia.

The HEMA consists of 10 items, with the eudaimonia and hedonia subscales consisting of five items each. The HEMA asks participant to what degree do they typically approach activities with certain intentions, regardless of whether aims are achieved. Ratings are given on a 7-point Likert scale that ranges from 1 = *not at all* to 7 = *very much*. Eudaimonic motive items explore the intention with which a participant engaged in activities over the last week with the following intentions: to pursue excellence or a personal ideal; to

use the best in his- or herself; to develop a skill, learn, or gain insight into something; to contribute to others or the surrounding world; or to do what they believe in. Hedonic motive items examine the degree to which a participant is motivated by seeking enjoyment, pleasure, fun, to take it easy, or relaxation. Huta and Ryan (2010) used exploratory principle components analysis with varimax rotation to verify all items loaded onto two separate factors in the HEMA. They verified reliability by calculating Cronbach alpha coefficients for eudaimonia (Cronbach's $\alpha=.82$) and hedonia (Cronbach's $\alpha=.85$). Alpha values for this study were comparable for both the eudaimonia (Cronbach's $\alpha=.83$) and hedonia (Cronbach's $\alpha=.84$) subscales. A tendency was found by Huta and Ryan (2010) for those scoring highly in one of the subscales to tend to score highly in the other ($r = .36, p < .01$).

Self-esteem

Participants' self-esteem, defined as overall sense of worth as an individual, was measured with the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965) (Rosenberg, 1965). RSES consists of 10 items to which participants respond using 4-point Likert scales, ranging from 'strongly agree', 'agree', 'disagree', to 'strongly disagree' (Rosenberg, 1965). Half the items are worded positively (eg. 'I feel I have a number of good qualities'), and the other half are worded negatively (eg. 'I wish I could have more respect for myself'). Item values range from 0 to 3, and negatively worded items are reversed scored before all items are summed to compute a total self-esteem score. Consistent with the literature (Rosenberg, 1965; Schmitt & Allik, 2005; Sinclair et al., 2010), the current study found the RSES to have excellent internal reliability (Cronbach's $\alpha=.92$).

The RSES is a well-established, broadly used, and valid measure of global self-esteem (Rosenberg, 1965; Schmitt & Allik, 2005; Sinclair et al., 2010). Findings during the measure's development largely established face-validity and test-retest reliability of the RSES within somewhat homogeneous Washington State University and high school samples (Rosenberg, 1965). More recently, the psychometric properties of the RSES have received further validation, with meta-analyses finding a consistent one-factor structure and substantial alpha reliability (Cronbach's $\alpha = .81$) across culturally and geographically diverse populations (Schmitt & Allik, 2005; Sinclair et al., 2010). Noted strengths of the RSES are its accessibility due to simple language, brevity (taking 1 to 2 minutes to complete), equivalence of factor structure across cultures, and applicability to diverse populations and age groups (Schmitt & Allik, 2005; Sinclair et al., 2010).

Psychological Distress

Psychological distress was measured using the 21-item version of the Depression, Anxiety, and Stress Scale (DASS-21) (Lovibond & Lovibond, 1995). The DASS-21 measures psychological distress overall and in the form of three basic emotional syndromes: depression, anxiety and stress (Henry & Crawford, 2005; Lovibond, 1998; Lovibond & Lovibond, 1995). Construct validity of the DASS-21 has been verified by demonstrating the longitudinal stability of the quadripartite model (depression, anxiety, stress, and psychological distress). This verification was achieved by re-testing participants 3-8 years after initial testing, corresponding to respective DASS-21 scales (Lovibond, 1998), and was similarly validated within a general adult population (Henry & Crawford, 2005). Henry and Crawford (2005) found adequate Cronbach alpha internal reliability scores for DASS-21 scales: good (Cronbach's $\alpha = .88$) for the depression scale, good (Cronbach's $\alpha = .82$) for the anxiety scale, excellent (Cronbach's $\alpha = .90$) for the stress scale, and excellent (Cronbach's $\alpha = .93$) for the total scale (Cronbach, 1951). Similarly, this study found DASS-21 to have internal reliability scores ranging from good to excellent: total aggregate (Cronbach's $\alpha=.95$), depression (Cronbach's $\alpha=.94$), anxiety (Cronbach's $\alpha=.85$), and stress (Cronbach's $\alpha=.87$).

Procedure

Prior to commencement of the study, approval was received from the Victoria University Human Research Ethics Committee. Data for this study were gathered and stored online using the survey platform "Qualtrics Research Suite" licensed to Victoria University. Qualtrics allows researchers to create surveys, distribute these electronically by sharing a hyperlink to the survey, and securely store survey data. This link was distributed electronically to target relevant audiences: Facebook pages catering to LGBTIQ and psychology research interest groups, personal emails to investigator contacts, status updates on the investigators' own Facebook pages, and an online publication 'LOTL' catering to a lesbian audience. Potential participants were presented with the following study title 'LGB Research' and brief description of the study's purpose: 'This research looks at relationships between everyday experiences of discrimination and psychological wellbeing among those who identify as gay, lesbian, or bisexual'. This brief description was followed by a link to the survey which participants could click on to access the survey. A full copy of all information and scales provided to participants is contained in Appendix A.

Once accessing the survey, participants were presented with a plain language statement outlining the aims of the research, what they would be asked to do, and any possible risks associated with participation. This information page made it clear that participation was entirely voluntary, and that responses submitted online were completely anonymous and confidential. Participants were also advised that they were free to withdraw from the survey at any time, and that they could skip any questions they did not wish to answer. At the bottom of the plain language information page, participants were required to check a box verifying that they had read and understood all the information provided and consented to participate in the survey. Participants were not able to proceed to the survey itself without checking this box. For this reason, it is impossible to determine the response rate of those exposed to the survey link. Qualtrics does, however, record how many of the respondents who commenced the survey completed it, which was 76% ($n = 157$). Participants were not offered any incentive for participating in this study. The time taken to gather an adequate sample was longer than investigators had anticipated, extending the estimated schedule by several months. While it had been hoped that at least 200 participants would enable an adequate sample, the investigators decided to close the survey with 157 completed responses, as this was a student project with an externally imposed timeframe.

Statistical analysis

Once gathered, data were examined for missing values, statistical outliers or overly influential values (Tabachnic & Fidell, 2007). Distributional assumptions of normality, linearity, multicollinearity, and homoscedasticity were tested, and any violations were dealt with as necessary (see Chapter 6: Results). Preparation, assumption testing, and treatment were all performed using IBM SPSS Statistics version 22.

Demographic group variables were dichotomous or categorical (e.g., male/female for gender; lesbian, gay, bisexual, or other for sexual orientation), while minority stress scales, psychological distress scales, self-esteem and motives for activities were quasi-continuous due to the use of Likert-type response formats. Accordingly, between-group differences in terms of the outcome variables measured (i.e., group differences by sexual orientation, gender, occupation, education level, relationship status, and residential setting) were examined using independent samples t-tests and one-way analyses of variance (ANOVAs). Bivariate associations between the continuous variables were initially analysed by computing bivariate correlations. Subsequently, multiple linear regression analyses tested the influence

of predictors (i.e., the nine minority stress subscales: vigilance, harassment/discrimination, gender expression, parenting, victimisation, family of origin, vicarious trauma, isolation, HIV/AIDS; eudaimonia and hedonia; and participant age as a control variable) on outcome variables (i.e., depression, anxiety, stress, and self-esteem). Both moderation and mediation analyses within regression were used to determine more complex relationships between variables, including the roles of eudaimonia, hedonia, and self-esteem. Details of these analyses are provided later in Chapter 6.

Specifically, it was predicted that psychopathology in terms of depression, anxiety, and stress, would increase alongside minority stress among LGB individuals; however, the present study is designed to examine which specific factors (e.g., isolation, gender expression, vigilance, etc.) differentially influence psychological distress among LGB people. It is anticipated that gender and sexual orientation, alongside sociodemographic influences, may have differing patterns of associations between minority stress and psychological distress. As previously outlined, it was difficult to predict which minority stressor would have the most influence on which aspects of psychological distress; therefore, no specific predictions regarding the relative influence of each stressor on each form of psychological distress were made. The potential roles of eudemonia and hedonia are even less certain, given this is the first study to the author's knowledge to investigate their influence on the effects of minority stress; nevertheless, tentative predictions were made. It was tentatively predicted that increases in eudaimonic wellbeing would be associated with increased self-esteem and lowered levels of psychological distress (depression, anxiety, and stress).

Methodological Issues

As discussed in Chapter 2, it should be considered that diversity in human sexual orientation renders categorisation for research purposes problematic. In sampling LGB populations, there is pressure to continually extend the umbrella to include more multifaceted and multidimensional sexual minorities (Meyer & Wilson, 2009; Worthington & Reynolds, 2009). Worthington and Reynolds (2009) described the constant updating process of outdated terms for sexual orientation and gender being discarded and new ones being added to the lexicon. Scientific tensions arise from ambiguity arising from the need to be inclusive of marginalised groups and to measure between group differences accurately when measuring sexual minorities for research (Moradi, Mohr, et al., 2009). Moradi, Mohr, et al. (2009) explain that while inclusiveness of ever-diverse sexual minority groupings can help to

prevent their neglect in the literature and detect commonalities, it may also confound greater understanding of real group differences. In attempting to reconcile the debate regarding essentialism (rigid categories) versus constructionism (fluid and diverse categories) in defining sexual and gender diversity, it is important to acknowledge sexual orientation concepts can be both constructed and enduring (Moradi, Mohr, et al., 2009).

In an early attempt to address difficulties categorising sexual orientation for research, Kinsey developed a scale continuum ranging from exclusively homosexual through to exclusively heterosexual, with combinations in between. However, Kinsey's scale is criticised for poor utility and restrictive view of homosexuality and heterosexuality as dichotomous ends of a single spectrum, where distinct scales may be a more accurate depiction (for review, see Sell, 2007). Sell (2007) outlines how further attempts to more accurately measure sexual orientation have been deemed similarly unsatisfactory. Content analyses of research on LGB issues in psychology have indicated that the most common method of assessing the sexual orientation of participants is to request self-identification as gay, lesbian, bisexual, or heterosexual, often by forced-choice formats (Phillips, Ingram, Smith, & Mindes, 2003). This is the most broadly used approach due to the relevant expedience and lack of preferable alternatives. For the same reasons, this method of determining the sexual orientation of participants was used in the current research. However, to allow for some diversity an additional category of 'other' was added, with participants invited to specify further in their own words.

Online surveys are an increasingly popular research tool as internet access has increased, technology has improved, and as researchers try to reach subpopulations that are not easily identifiable, decentralized, or rare in the general population, which can apply to LGB individuals (Riggle, Rostosky, & Reedy, 2005). Quantitative measures are easily adapted to online surveys, and evidence suggests that equivalent populations are sampled with online samples as with other methods used in LGB research (Riggle & Rostosky, 2012). For LGB persons, open access to an online survey may provide a sense of anonymity and increase their comfort in answering the survey questions compared with other forms of data collection such as hard copies of questionnaires completed in the presence of an experimenter, capturing those who may not be so open about their sexual orientation.

Chapter 6: Results

Data Treatment and Sample Characteristics

Participants who did not go through to the end of the survey, or those with substantial missing values (less than 80% completion for any scale), were deleted list-wise from the data set. Cases with minimal missing data ($n = 5$) were retained: 3 cases each with 1 DHEQ item missing (different items), a case with an item missing from the RSES, and a case with 4 item values missing across three scales (an item from the DASS, an item from the HEMA and 2 RSES items). These 5 cases were addressed by replacement with the mean of the relevant subscale from which item data were missing, based on the scale items that each participant did complete: isolation and vigilance (DHEQ), eudaimonia (HEMA), and anxiety (DASS). One participant with complete data was excluded due to identifying as 'straight'.

Accordingly, the final sample for analysis consisted of 156 self-selected participants. Sample demographics are displayed in Table 1.

Group Comparisons

For all group comparisons, the assumptions of normal distribution and homogeneity of variance were tested. No serious violations of normality of distribution were detected. Regarding homogeneity of variance, for two-group comparisons any violations were accounted for by adjusting the degrees of freedom as indicated. For multiple group comparisons where ANOVAs were performed, only in one instance did Levene's test indicate unequal variances between groups with respect to the dependent variable being analysed. This is indicated where applicable below.

Gender

Male transgender ($n = 3$) and female transgender ($n = 3$) and 'other' ($n = 9$) descriptions were excluded from gender analyses due to insufficient numbers for statistical analysis. Among those who identified as 'other', gender self-descriptions included: 'gender fluid', 'gender queer', 'agendered', 'transmasculine', 'non-binary', and 'femme'. Comparisons of gender effects were conducted for males and females from the sample (see Table 2). Independent samples t-tests revealed females reported higher levels of anxiety, $t(139) = 2.44, p = .023, d_{Cohen} = -0.392$. and gender expression concerns, $t(139) = 3.51, p = .002, d_{Cohen} = -0.549$, whereas males reported greater concerns around HIV/AIDS, $t(139) = -7.24, p = .001, d_{Cohen} = 1.397$. There were no significant gender differences on any other variables.

Table 1

Demographics of sample population

	<i>n</i>	%
Gender		
Female	83	53.2
Male	58	37.2
Transgender female	3	1.9
Transgender male	3	1.9
Other	9	5.8
Sexual Orientation		
Lesbian	53	34.0
Gay	52	33.3
Bisexual female	20	12.8
Bisexual male	6	3.8
Other	25	16.0
Country of birth		
Australia	87	55.8
United Kingdom	20	12.8
USA	20	12.8
New Zealand	5	3.2
Vietnam	4	2.6
Other ^a	20	12.8
Ethnic origin		
European	128	82.1
Asian	10	6.4
Middle Eastern	4	2.6
Hispanic-American, African-American	2	1.3
Oceania	1	0.6
Residential setting		
Inner urban	83	53.2
Outer Suburban	29	18.6
Regional centre or town	38	24.4
Rural	6	3.8
Education		
Postgraduate study	54	34.6
Undergraduate study	53	34.0
Non-university tertiary study	26	16.7
Completed secondary study	18	11.5
Some secondary study	5	3.2
Occupation		
Full-time employment	73	46.8
Part-time	27	17.3
Casual	16	10.3
Unemployed ^b	40	26.6
Relationship status		
In a relationship	100	64.1
Not in a relationship	56	35.9

^aOther countries include South Africa, Canada, Egypt, Ireland, China, France, Germany, India, Italy, Mexico, Netherlands, Norway, Philippine's, Papua New Guinea, Thailand, and Turkey.

^bThe unemployed category included those who were studying, volunteering, engaged in household duties, and care work.

Table 2

Means and Standard Deviations of Variables as a Function of Gender

Variable	Women (n=83)		Men (n=58)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Vigilance	10.01	6.94	8.69	7.27
Harassment/Discrimination	6.04	6.69	4.69	5.00
Gender expression	5.06 _a	6.00	2.26 _a	3.42
Parenting	0.98	2.67	0.62	1.77
Victimisation	0.48	1.60	1.10	3.72
Family of Origin	5.42	7.09	3.76	5.92
Vicarious Trauma	21.17	6.50	19.98	6.51
Isolation	6.75	4.99	5.88	4.64
HIV/AIDS	1.49 _a	2.27	6.64 _a	5.07
Depression	6.90	5.86	5.17	4.58
Anxiety	5.31 _a	3.72	3.17 _a	4.57
Stress	8.45	4.56	7.10	3.98
Eudaimonia	26.25	6.27	27.19	5.85
Hedonia	25.94	6.35	25.12	6.40
Self-esteem	19.14	7.16	20.97	5.84

Note: Means with shared subscripts are significantly different from each other.

Sexual Orientation

Among those identifying as ‘other’ ($n = 26$) for sexual orientation, participants used many terms (some in combination) to self-describe including ‘pansexual’, ‘queer’, ‘homoromantic’, ‘asexual’, ‘demisexual’, ‘greysexual’, ‘panromantic’, ‘poly-amorous’, non-binary’, ‘functionally lesbian with transient bi-leanings’, and ‘interested in females but not lesbian’. One participant identifying as ‘other’ declined to elaborate further. Transgender ($n = 6$) and self-described ‘other’ ($n = 9$) respondents were excluded from these analyses due to insufficient numbers for statistical analysis.

Independent samples t-tests were used to explore differences between bisexual males and bisexual females within the sample (see Table 3). Results demonstrated bisexual men reported significantly greater levels of harassment/discrimination, $t(24) = -2.23$, $p = .035$, $d_{Cohen} = 1.041$, and HIV/AIDS concerns, $t(24) = -3.01$, $p = .001$, $d_{Cohen} = 1.906$.

Table 3
Differences Between Male and Female Bisexuals

	Bisexual Woman (<i>n</i> = 20)		Bisexual Men (<i>n</i> = 6)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Vigilance	10.00	7.03	15.17	5.38
Harassment/Discrimination	2.70 _a	4.12	7.67 _a	6.71
Gender Expression	3.55	4.42	6.17	8.21
Parenting	0.65	1.31	0.33	0.82
Victimisation	0.20	0.89	0.67	1.63
Family of Origin	5.40	5.92	5.83	8.13
Vicarious Trauma	21.05	6.63	22.67	5.05
Isolation	6.35	4.25	10.00	2.61
HIV/AIDS	1.45 _a	1.76	5.50 _a	3.15
Depression	7.35	6.24	5.50	2.74
Anxiety	5.50	4.80	5.33	3.27
Stress	9.70	4.38	10.50	4.23
Eudaimonia	26.85	7.13	30.00	2.97
Hedonia	24.85	6.78	26.83	6.37
Self-esteem	19.00	7.71	20.83	4.58

Note: Means with shared subscripts are significantly different from each other.

Two sets of one-way analyses of variance (ANOVAs) with Fisher's least significant difference (LSD) post-hoc comparisons were conducted to compare sexual orientation groups (gay men, lesbians, and bisexuals) with respect to minority stress, psychological distress and wellbeing variables. The first set included bisexual men whereas the second set excluded men from the bisexual group. The number of bisexual men in the sample was relatively small (*n* = 6); nonetheless, it was of interest to examine whether including them in the bisexual group made any difference to the results of the analyses as compared with excluding them.

The ANOVAs and post-hoc comparisons excluding bisexual men revealed significant differences with respect to several outcomes. These analyses revealed a significant main effect with lesbians reporting higher levels of harassment/discrimination, $F(2, 122) = 5.45, p = .005, \eta_p^2 = .082$, and gender expression, $F(2, 122) = 8.67, p = .001, \eta_p^2 = .124$, than both gay men and bisexual women. Bisexual women reported significantly more stress than gay men, $F(2, 122) = 3.22, p = .043, \eta_p^2 = .05$, but not lesbians. Not surprisingly, gay men had higher scores on the HIV/AIDS subscale than both lesbians and bisexual women, $F(2, 122) = 28.11, p = .001, \eta_p^2 = .315$.

The second set of analyses (see Table 4), which included bisexual men, yielded virtually the same results. Lesbians reported greater harassment/discrimination, $F(2, 128) = 3.96, p = .022, \eta_p^2 = .058$, and greater gender expression scores than gay men, but not bisexuals, $F(2, 128) = 8, p = .001, \eta_p^2 = .111$. The bisexual group reported significantly greater stress than both lesbians and gay men, $F(2, 128) = 4.49, p = .013, \eta_p^2 = .76$. Gay men reported greatest scores for HIV/AIDS, $F(2, 128) = 25.75, p = .001, \eta_p^2 = .287$. There were no other significant differences between sexual orientation groups.

Table 4
Differences Between Sexual Orientation Groups (Including Bisexual Men in Bisexual Group)

	Lesbians ($n = 52$)		Gay men ($n=53$)		Bisexuals ($n=26$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Vigilance	9.54	6.78	8.11	7.43	11.19	6.95
Harassment/Discrimination	7.19 _{ab}	6.54	4.66 _a	5.04	3.85 _b	5.14
Gender Expression	6.33 _a	6.51	2.23 _a	3.48	4.15	5.44
Parenting	1.46	3.46	0.62	1.83	0.58	1.21
Victimisation	0.38	1.47	1.21	3.88	0.31	1.09
Family of Origin	5.67	8.00	3.47	5.62	5.50	6.31
Vicarious Trauma	20.35	6.46	19.79	6.58	21.42	6.24
Isolation	6.75	5.46	5.43	4.62	7.19	4.19
HIV/AIDS ¹	1.37 _a	2.79	6.60 _{ab}	5.09	2.38 _b	2.71
Depression	6.23	5.55	5.40	4.97	6.92	5.64
Anxiety	4.67	4.19	3.77	3.20	5.46	4.43
Stress	7.63 _b	4.22	6.94 _a	3.97	9.88 _{ab}	4.27
Eudaimonia	25.75	6.02	26.75	5.94	27.58	6.50
Hedonia	26.44	6.34	24.74	6.28	25.31	6.62
Self-esteem	20.06	6.94	21.15	6.06	19.42	7.07

¹Levene's test of homogeneity of variance indicated unequal variances between groups ($p < .001$)

Note: Means with shared subscripts within the same row were significantly different from each other.

Employment status

To simplify analyses, participant employment status was classified as full-time, part-time, casual, or unemployed. Participants in the unemployed category were variously engaged in study, volunteering, household duties, and care work. None of the minority stress, psychological wellbeing or psychological distress variables differed significantly as a function of employment status, with all p 's $> .05$.

Education

Analyses revealed significant differences on minority stress factors as a function of the highest level of education they had attained (see Table 5). Parenting scores differed significantly between groups, $F(4, 151) = 2.59, p = .039, \eta_p^2 = .064$, with those who had completed a trade certificate or diploma reporting greater minority stress related to parenting than those who had completed secondary school, undergraduate or postgraduate degrees. Vicarious trauma also differed significantly according to level of education, $F(4, 151) = 2.68, p = .034, \eta_p^2 = .066$, with those who had completed secondary school reporting significantly more vicarious trauma than those who partially completed secondary school and those who had completed a postgraduate degree. HIV/AIDS scores differed significantly between education level groupings, $F(4, 151) = 2.78, p = .029, \eta_p^2 = .069$, with those who had completed a postgraduate degree reporting significantly lower HIV/AIDS-related stress than those who had completed secondary school, a trade certificate or diploma, or a undergraduate degree.

Education level differences were also found in psychopathology. Depression differed significantly between groups, $F(4, 151) = 3.93, p = .005, \eta_p^2 = .094$, with those who had completed secondary school reporting significantly more depression symptoms than those who had completed any level of tertiary study. Anxiety also differed significantly, $F(4, 151) = 4.8, p = .001, \eta_p^2 = .11$, with those who obtained an undergraduate or postgraduate degree reporting less anxiety than those who completed or partially completed secondary school. Self-esteem differed significantly between education groupings, $F(4, 151) = 2.79, p = .028, \eta_p^2 = .069$, with those who had completed secondary school reporting significantly lower self-esteem than those who had completed undergraduate or postgraduate tertiary study.

Residential setting

Participants specified whether they currently lived in an inner urban, outer suburban, regional town centre, or rural environment. Due to the small number of participants living rurally ($n = 6$), these participants were added to the group living in a town or regional centre. No significant differences between the residential settings were found with respect to any other variable, with all p 's $> .05$

Table 5

Differences between Levels of Education

	Some Secondary (<i>n</i> = 5)		Secondary (<i>n</i> = 18)		Diploma/Trade (<i>n</i> = 26)		Undergraduate (<i>n</i> = 53)		Postgraduate (<i>n</i> = 54)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Vigilance	10.00	10.30	10.00	6.41	9.23	7.36	10.09	7.31	9.30	7.04
Harassment/ Discrimination	3.80	4.76	5.06	5.14	6.96	6.04	6.43	7.13	5.09	5.78
Gender Expression	7.80	7.26	5.39	5.19	4.77	4.55	5.23	6.85	4.02	5.99
Parenting	2.60	3.98	0.44 _a	0.92	1.92 _{ab}	4.12	0.45	1.71	0.81 _b	1.79
Victimisation	0.00	0.00	0.67	2.06	0.77	3.06	0.87	2.89	0.65	2.39
Family of Origin	6.60	6.03	3.17	3.78	5.88	8.80	4.17	5.91	5.00	6.78
Vicarious Trauma	16.40 _a	11.33	24.33 _{ab}	4.88	21.23	5.21	20.98	6.20	19.44 _b	6.73
Isolation	4.60	3.21	7.61	4.71	6.19	5.12	6.60	5.24	5.96	4.79
HIV/AIDS	5.00	6.86	2.17 _a	2.73	2.65 _b	3.11	3.0 _{ac}	4.67	5.11 _b	4.74
Eudaimonia	26.00	5.61	25.33	5.59	26.96	5.67	26.79	6.26	26.20	6.14
Hedonia	24.20	4.76	24.89	6.40	24.88	6.64	26.17	6.41	25.65	6.25
Self-esteem	18.60	8.65	15.33 _{ab}	7.82	18.38	6.02	20.26 _b	6.58	20.98 _a	6.49
Depression	7.60	7.64	10.78 _{abc}	6.20	6.81 _a	5.15	5.70 _b	4.75	5.48 _c	5.12
Anxiety	9.00 _{ab}	7.94	7.83 _{cd}	4.61	5.50	3.23	4.64 _{ac}	4.32	3.70 _{bd}	3.74
Stress	9.40	7.23	10.00 _a	4.73	9.00	3.84	8.19	4.59	7.02 _a	4.00

Note: Means with shared subscripts within the same row were significantly different from each other.

Relationship Status

Among the 59 participants in a relationship, 15 (25.42%) had been in their relationship for less than 1 year. Overall, however, the relationships reported in this sample were long-term, with an average relationship duration of 7.35 years ($SD = 6.88$ years). The longest relationship (a lesbian couple) was 41 years in duration. For analysis, participants were divided into two groups: those currently in a relationship and those who were not. T-tests revealed that those in a relationship experienced significantly less isolation, $t(154) = 4.5$, $p = .001$, $d = -.75$, less depression, $t(154) = 2.72$, $p = .007$, $d = -.46$, and higher self-esteem, $t(154) = -2.39$, $p = .018$, $d = .4$, than those not in a relationship (see Table 6).

Table 6
Differences in Levels of Minority Stress Variables Per Relationship Status

	Single ($n = 55$)		Relationship ($n = 101$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Vigilance	9.51	6.89	9.74	7.30
Harassment/Discrimination	5.80	6.75	5.82	5.93
Gender Expression	5.25	6.64	4.60	5.68
Parenting	0.69	1.74	1.00	2.67
Victimisation	0.80	2.28	0.68	2.77
Family of Origin	4.75	6.65	4.68	6.56
Vicarious Trauma	20.85	6.00	20.66	6.69
Isolation	8.64 _a	5.14	5.13 _a	4.37
HIV/AIDS	3.65	4.44	3.63	4.50
Eudaimonia	6.07	5.23	26.61	6.36
Hedonia	25.64	5.72	25.52	6.61
Depression	8.02 _a	5.67	5.60 _a	5.10
Anxiety	5.78	4.52	4.52	4.19
Self-esteem	17.84 _a	6.43	20.52 _a	6.88

Note: Means with shared subscripts are significantly different from each other.

Bivariate Correlations Between Variables

Bivariate associations were explored between all continuous variables by computing Pearson correlation coefficients. These were age, minority stress subscales, psychological wellbeing measures, and psychological distress scores (see Table 7).

Many minority stress subscales were positively correlated, and none were negatively correlated. For brevity, only significant correlations are described herein. Vigilance was correlated with harassment, gender expression, family of origin, vicarious trauma, and isolation. Harassment/discrimination was correlated with vigilance, gender expression, victimisation, family of origin, and vicarious trauma. Gender expression was correlated with vigilance, harassment/discrimination, vicarious trauma, and isolation. Victimization was correlated with harassment/discrimination, vicarious trauma, and HIV/AIDS; family of origin with vigilance, gender expression, and vicarious trauma. Vicarious trauma was correlated with vigilance, harassment/discrimination, gender expression, victimisation, family of origin, and isolation. Isolation was correlated with vigilance, gender expression, and vicarious trauma. Finally, HIV/AIDS was correlated with victimisation.

Correlations were also found among psychological distress variables, wellbeing variables, and age. Again, for brevity, only significant correlations are described. As expected, depression, anxiety, and stress were all positively correlated. Depression, anxiety, and stress were positively correlated with vigilance, harassment/discrimination, gender expression, vicarious trauma, and isolation, and negatively correlated with age. Anxiety and depression were negatively correlated with self-esteem. Age was negatively correlated with vigilance, gender expression, vicarious trauma, and isolation, and positively correlated with parenting stress. Self-esteem was positively correlated with age, eudaimonia, and hedonia. Unsurprisingly, eudaimonia and hedonia were positively correlated with each other. Eudaimonia was positively correlated with self-esteem, and, finally, hedonia was negatively correlated with parenting and family of origin minority stress.

Table 7

*Bivariate Correlations Between Age, Minority Stress, Psychological Wellbeing and Psychological Distress**(n = 156)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age (<i>n</i> = 155)															
2. Vigilance	-.27**														
3. Harassment/ Discrimination	-.16	.40**													
4. Gender Expression	-.20*	.26**	.41**												
5. Parenting	.22**	.09	.11	.09											
6. Victimization	.02	.13	.39**	.15	.09										
7. Family of Origin	-.02	.29**	.33**	.09	.16	-.01									
8. Vicarious Trauma	-.20*	.37**	.43**	.26**	.05	.23**	.19*								
9. Isolation	-.25*	.43**	.13	.41**	.10	.02	.12	.24**							
10. HIV/AIDS	.15	.16	.10	.01	.07	.26**	.15	.12	.06						
11. Self-esteem	.36**	-.28**	-.15	-.37**	-.50	-.09	-.15	-.24**	-.44**	-.00					
12. Eudaimonia	.07	.09	.09	-.08	-.03	.13	-.02	.10	-.07	.08	.28**				
13. Hedonia	.02	.08	-.10	-.07	-.17*	-.06	-.19*	-.02	-.08	-.08	.17*	.37**			
14. Depression	-.31**	.33**	.22**	.37**	.04	.13	.08	.32**	.43**	.09	-.78**	-.26**	-.13		
15. Anxiety	-.40**	.33**	.25**	.36**	-.05	.14	.09	.25**	.24**	-.05	-.59**	-.10	.02	.68**	
16. Stress	-.36**	.35**	.16*	.31**	-.00	.04	.03	.22*	.29**	-.01	-.56	-.05	-.01	.65**	.77**

* $p < .05$, ** $p < .01$, *** $p < .000$

Predictive Associations Between Minority Stress Factors and Psychological Distress

To establish the relative influence of each minority stress variable on aspects of psychological distress and wellbeing, multiple linear regression analyses were conducted with the nine subscales of minority stress (vigilance, harassment/discrimination, gender expression, parenting victimisation, family of origin, vicarious trauma, isolation, HIV/AIDS) regressed onto each dimension of psychological distress (depression, anxiety, stress) and to a measure of psychological wellbeing (self-esteem). Clinical rationale suggests examining depression, anxiety and stress separately, as these tend to have distinct symptomology, influences, and treatment (Henry & Crawford, 2005), and that self-esteem is a reliable indicator of psychological wellbeing (Rosenberg, 1965).

Data were checked for assumptions of linearity, multicollinearity, and homoscedasticity, with assumptions largely met, so no remedial action was deemed necessary (Tabachnic & Fidell, 2007). Furthermore, preliminary analyses were performed to check for outliers and influential values. While some influential values were identified using Cook's distance statistic, these were below the suggested exclusion cut-off point of 1, and examination of these cases in the context of the other variables measured did not reveal any clear reason to exclude them from further analyses. Therefore, all cases were retained in the regression analyses. A priori estimations of sample size needed for adequate predicting power were verified using G-power software (Faul, Erdfelder, Lang, & Buchner, 2007). Power analyses were conducted using G*Power for a Linear Multiple Regression-Fixed Model R square deviation from zero with nine predictor variables and an expected medium effect size (.15). It was found that for an 80% power study a sample of 114 was required and a 95% power study required a sample of 166.

Due to the exploratory nature of these analyses and the absence of specific hypotheses, standard multiple regressions were performed so that all independent variables were entered simultaneously. To reiterate, four separate multiple regression analyses were run to examine associations between minority stress subscales and depression, anxiety, stress, and self-esteem (see Table 8).

Table 8

Results of Regression Analyses Examining Minority Stress Factors as Predictors of Psychological Distress (N = 156)

Outcome Variable	Predictor Variable	<i>t</i> (9, 146)	β	<i>p</i>
Depression	Vigilance	1.28	.09	.2
	Harassment/Discrimination	-0.10	-.01	.92
	Gender expression	2.26*	.17	.03
	Parenting	-0.34	-.06	.73
	Victimisation	0.63	.11	.53
	Family of Origin	-0.35	-.02	.73
	Vicarious Trauma	1.77	.12	.08
	Isolation	3.23**	.3	.00
	HIV/AIDS	0.52	.05	.61
Anxiety	Vigilance	2.51*	.14	.01
	Harassment/Discrimination	-0.08	-.01	.94
	Gender expression	2.97**	.19	.00
	Parenting	-1.32	-.18	.19
	Victimisation	1.13	.16	.26
	Family of Origin	0.12	.01	.91
	Vicarious Trauma	1.09	.06	.28
	Isolation	0.30	.02	.77
	HIV/AIDS	-1.43	-.11	.15
Stress	Vigilance	2.91**	.17	.00
	Harassment/Discrimination	-0.36	-.03	.72
	Gender expression	2.39*	.16	.02
	Parenting	-0.53	-.07	.6
	Victimisation	-0.14	-.02	.89
	Family of Origin	-0.76	-.04	.45
	Vicarious Trauma	0.73	.04	.47
	Isolation	1.04	.08	.3
	HIV/AIDS	-0.53	-.04	.6
Self-esteem	Vigilance	-0.79	-.07	.43
	Harassment/Discrimination	1.07	.11	.29
	Gender expression	-2.70*	-.26	.01
	Parenting	0.35	.07	.73
	Victimisation	-0.91	-.2	.36
	Family of Origin	-1.35	-.11	.18
	Vicarious Trauma	-1.24	-.11	.22
	Isolation	-3.44**	-.41	.00
	HIV/AIDS	0.81	.09	.42

* $p < .05$, ** $p < .01$, *** $p < .001$

Multiple regression analysis with depression as the criterion variable revealed that the minority stress variables as a group accounted for a significant proportion of the variance, $R^2 = .28$, $F(9, 146) = 6.16$, $p = .001$. However, only isolation and gender expression were significant unique predictors of depression scores, with higher scores on both predictors independently associated with increased depression. The analysis with anxiety as the criterion variable revealed that minority variables collectively accounted for a significant proportion of variance, $R^2 = .22$, $F(9, 146) = 4.57$, $p = .001$, with vigilance and gender expression emerging as unique predictors; higher scores on both were associated with increased anxiety. Similarly, analysis with stress as the criterion variable revealed that minority stress variables collectively accounted for a significant proportion of variance, $R^2 = .19$, $F(9, 146) = 3.84$, $p = .001$. As with anxiety, vigilance and gender expression emerged as unique predictors of variance in stress, with higher scores independently associated with increased stress. Finally, self-esteem as a criterion variable showed it that minority stress variables accounted for a proportion of variance, $R^2 = .26$, $F(9, 146) = 5.83$, $p = .001$. As with depression, gender expression and isolation were significant predictors of self-esteem, with higher scores on both associated with lower self-esteem scores. In each of the four analyses, no other minority stress factors exerted a significant independent influence on the outcome variables.

Moderating Effect of Eudaimonia and Hedonia on Relationships Between Minority Stressors and Psychological Distress

Since one of the study's aims was to explore the potential roles of eudaimonia and hedonia for LGB people, analyses were performed to determine whether these moderated the relationships between minority stressors and psychological distress. Moderation analyses investigate beyond whether there is an association between variables to explore the conditions under which these associations exist (Hayes, 2018). This is done by analysing the effect of an independent variable alongside proposed interacting variables on the outcome variable, to determine whether differing levels of predictors (i.e., a proposed moderator) alters the relationship between the other predictor and the outcome. For this analysis a model was proposed whereby eudaimonia and hedonia, as indicators of wellbeing, may buffer the associations between minority stress predictors and psychological distress.

To test proposed interaction effects of eudaimonia and hedonia on relationships between minority stressors and psychological distress, bootstrap analyses for moderation were conducted using Hayes (2013; Model 1) PROCESS SPSS macro. PROCESS software uses a bias-corrected bootstrap technique for moderated ordinary least squares (OLS) multiple regression. Hayes (2013) suggests a conservative number of bootstrap samples is 10,000; thus, this was the value set to produce 95% confidence intervals for the interaction effect. If the confidence interval does not contain zero, one can conclude that moderation is significant. PROCESS adjusts for any violations of normality and heteroscedasticity assumptions for multiple regression. The variables are automatically centred in PROCESS to avoid potentially problematic high multicollinearity (Aiken & West, 1991; Hayes, 2018). A priori power analyses revealed that the sample size was adequate to detect medium sized effects of .15 at the .05 significance level (Faul et al., 2007). Power analyses were conducted using G*Power for an F Test of Linear Multiple Regression-Fixed Model R square deviation from zero with one predictor variable (minority stress subscale), one moderator (eudaimonia or hedonia) an expected medium effect size (.15). It was found that for an 80% power study a sample of 77 was required and a 95% power study required a sample of 119. Data screening for statistical outliers did not suggest any data be excluded on this basis.

As moderation effects can occur when there is no significant association between variables (Hayes, 2018), all relationships between minority stressors and psychological distress were explored with eudaimonia and hedonia as proposed moderators. Thus, the

analyses below involved aspects of psychological distress (depression, anxiety and stress) as outcomes, each of the minority stressors (vigilance, harassment/discrimination, gender expression, parenting, victimisation, family of origin, vicarious trauma, isolation and HIV/AIDS) as predictors, and both eudaimonia and hedonia as moderators. A total of 54 moderation analyses were conducted (refer Appendix B).

Depression

Eudaimonia was a significant predictor of depression in every analysis when entered into regressions with minority stressors (b ranged from $-.21$ to $-.27$). Therefore, although 18 moderation analyses were conducted with depression as dependent variable, only those which yielded significant moderation effects or significant main effects of minority stressors and hedonia are reported below.

In the first model predicting depression (see Table 9), vigilance and eudaimonia were significant predictors. Levels of vigilance were positively associated with levels of depression, whereas eudaimonia levels were negatively associated with depression. While the overall model accounted for a significant proportion of the variance in depression, $R^2 = .21$, $F(3, 152) = 12.62$, $p < .001$, there was no moderation effect of eudaimonia on the relationship between vigilance and depression.

Table 9
Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Vigilance Predicting Depression

Predictor variables	Coefficient(b)	SE	t	p
Vigilance	.29	.05	5.27	<.001
Eudaimonia	-.27	.08	-3.40	<.001
Vigilance * Eudaimonia	-.02	.01	-1.73	.086

In the second model predicting depression (see Table 10), vigilance was a significant predictor but not hedonia was not. Levels of vigilance were positively associated with levels of depression. While the overall model accounted for a significant proportion of the variance in depression, $R^2 = .12$, $F(3, 152) = 5.14$, $p = .002$, there was no moderation effect of hedonia on the association between vigilance and depression.

Table 10
Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Vigilance Predicting Depression

Predictor variables	Coefficient(b)	SE	t	p
Vigilance	.24	.07	3.64	<.001
Hedonia	-.07	.08	-.96	.339
Vigilance * Hedonia	-.01	.01	-.71	.479

In the third model predicting depression (see Table 11), harassment / discrimination and eudaimonia were significant predictors. Levels of harassment / discrimination was

positively associated with levels of depression, while eudaimonia was negatively associated with depression. While the overall model accounted for a significant proportion of the variance in depression, $R^2 = .12$, $F(3, 152) = 5.54$, $p < .001$, there was no moderation effect of eudaimonia on the relationship between harassment / discrimination and depression.

Table 11

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Harassment / Discrimination Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Harassment / Discrimination	.22	.09	2.50	.013
Eudaimonia	-.26	.09	-2.85	.005
H / D * Eudaimonia	-.00	.02	-0.06	.953

In the fourth model predicting depression (see Table 12), harassment / discrimination was a significant predictor but hedonia was not. Levels of harassment / discrimination were positively associated with levels of depression. While the overall model accounted for a significant proportion of the variance in depression, $R^2 = .07$, $F(3, 152) = 2.79$, $p = .043$, there was no moderation effect of hedonia on the relationship between harassment / discrimination and depression.

Table 12

Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Harassment / Discrimination Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Harassment / Discrimination	.17	.08	2.26	.025
Hedonia	-.09	.09	-1.05	.294
H / D * Hedonia	-.01	.02	-0.75	.457

In the fifth model predicting depression (see Table 13), gender expression and eudaimonia were significant predictors. Levels of gender expression concerns were positively associated with levels of depression, while eudaimonia was negatively associated with depression. While the overall model accounted for a significant proportion of the variance in depression, $R^2 = .19$, $F(3, 152) = 10.2$, $p < .001$, there was no moderation effect on the relationship between gender expression and depression.

Table 13

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Gender Expression Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Gender Expression	.32	.08	4.09	<.001
Eudaimonia	-.21	.08	-2.54	.012
Gender Expression * Eudaimonia	-.00	.02	-0.01	.991

In the sixth model predicting depression (see Table 14), gender expression was a significant predictor but hedonia was not. Levels of gender expression were positively associated with levels of depression. While the overall model accounted for a significant proportion of the variance in depression, $R^2 = .15$, $F(3, 152) = 6.64$, $p < .001$, there was no moderation effect of hedonia on the relationship between gender expression and depression.

Table 14

Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Gender Expression Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Gender Expression	.32	.08	4.23	<.001
Hedonia	-.08	.07	-1.15	.253
Gender Expression * Hedonia	-.01	.01	-0.89	.376

In the seventh model predicting depression (see Table 15), eudaimonia was a significant predictor but parenting was not. Levels of eudaimonia were negatively correlated with levels of depression. While the overall model accounted for a significant proportion of the variance in depression, $R^2 = .07$, $F(3, 152) = 2.90$, $p = .037$, there was no moderation effect of eudaimonia on the relationship between parenting and depression.

Table 15

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Parenting Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Parenting	.08	.15	0.50	.620
Eudaimonia	-.23	.09	-2.70	.008
Parenting * Eudaimonia	-.00	.03	-0.16	.870

In the eighth model, neither parenting or hedonia significantly predicted depression, nor was there a moderation effect.

In the ninth model predicting depression (see Table 16), eudaimonia was a significant predictor but victimisation was not. Levels of eudaimonia were negatively associated with levels of depression. While the overall model accounted for a significant portion of the variance in depression, $R^2 = .31$, $F(3, 152) = 3.18$, $p = .026$, there was no moderation effect of eudaimonia on the relationship between parenting and depression.

Table 16

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Victimisation Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Victimisation	.40	.46	0.88	.382
Eudaimonia	-.26	.10	-2.64	.009
Victimisation * Eudaimonia	-.01	.09	-0.15	.881

In the tenth model, neither victimisation or hedonia significantly predicted depression, nor was there a moderation effect.

The eleventh model approached significance ($p = .056$) for predicting depression (see Table 17). Eudaimonia was a significant predictor of depression, but family of origin was not. Levels of eudaimonia were negatively associated with levels of depression. There was no moderation effect of eudaimonia on the relationship between family of origin and depression.

Table 17

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Family of Origin Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Family of Origin	.05	.06	0.83	.405
Eudaimonia	-.23	.08	-2.74	.007
Family of Origin * Eudaimonia	-.01	.01	-1.05	.296

In the twelfth model, neither family of origin or hedonia significantly predicted stress, nor was there a moderation effect.

In the thirteenth model predicting depression (see Table 18), eudaimonia and vicarious trauma were significant predictors. Levels of vicarious trauma were positively associated with levels of depression, while eudaimonia was negatively associated with depression. While the overall model accounted for a significant proportion of the variance in

depression, $R^2 = .19$, $F(3, 152) = 9.72$, $p = .000$, there was no moderation effect of eudaimonia on the relationship between vicarious trauma and depression.

Table 18

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Vicarious Trauma Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vicarious Trauma	.27	.06	16.22	.000
Eudaimonia	-.25	.08	-3.08	.003
Vicarious Trauma * Eudaimonia	-.02	.01	0.15	.146

In the fourteenth model predicting depression (see Table 19), vicarious trauma was a significant predictor but hedonia was not. Levels of vicarious trauma were positively associated with level of depression. While the overall model accounted for a significantly proportion of the variance in depression, $R^2 = .13$, $F(3, 152) = 6.9$, $p < .001$, there was no moderation effect of hedonia on the relationship between vicarious trauma and depression.

Table 19

Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Vicarious Trauma Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vicarious Trauma	.24	.06	4.09	.000
Hedonia	-.07	.07	-1.11	.269
Vicarious Trauma * Eudaimonia	-.02	.01	-1.91	.059

In the fifteenth model predicting depression (see Table 20), eudaimonia and isolation were significant predictors. Levels of isolation were positively associated with levels of depression, while eudaimonia was negatively associated with depression. These associations were qualified by a significant interaction of isolation and eudaimonia in the prediction of depression, $F = 4.64(1, 152)$, $p = .033$. The overall model accounted for a significant proportion of the variance in depression, $R^2 = .27$, $F(3, 152) = 16.16$, $p = .000$, while the moderating effect of eudaimonia on the relationship between isolation and depression accounted for 3% of variance on depression, $R_{change} = .03$.

Table 20
Unstandardised Regression Coefficients for the Analyses of Eudaimonia Moderating Isolation as a Predictor of Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Isolation	.45	.07	6.04	<.001
Eudaimonia	-.22	.08	-2.90	.004
Isolation * Eudaimonia	-.03	.02	-2.15	.033

Simple slope analyses showed that positive associations between isolation and depression were significantly different from zero for all levels of eudaimonia: relatively low, $b = .64$, $t(152) = 5.20$, $p < .001$, average, $b = .45$, $t(152) = 6.04$, $p > .001$, and high, $b = .25$, $t(152) = 2.34$, $p = .021$. However, the association between isolation and depression became weaker with increased levels of eudaimonia (see Figure 1). In other words, higher engagement in eudaimonic activities appeared to have an ameliorative influence on the association between isolation and depressive symptoms, so that the relationship between them was weaker at relatively high levels of eudaimonia. The Johnson-Neyman technique identified the eudaimonia score of 6.69, above which the interaction between isolation and depression is no longer significant, $b = .23$, $t(152) = 1.98$, $p = .05$, with 10.9% of participants scoring above this level of eudaimonia.

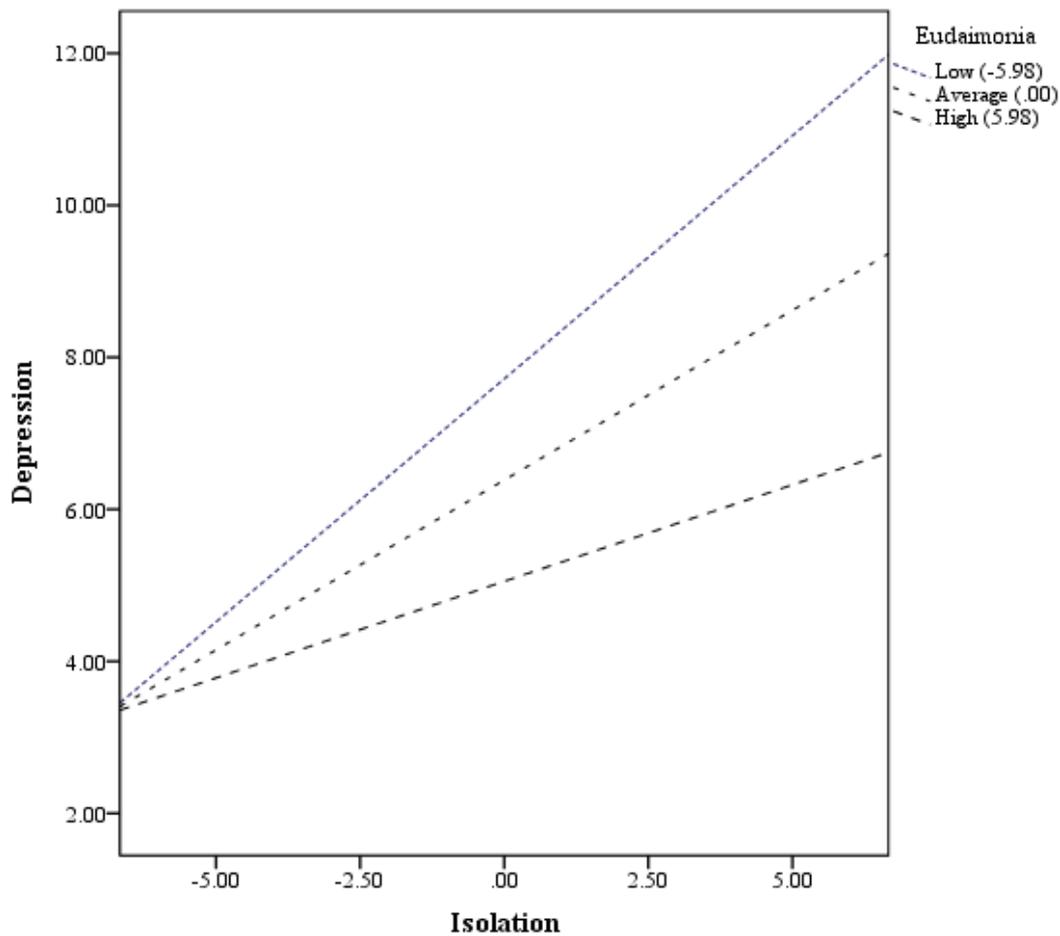


Figure 1. Moderating role of eudaimonia on the association between isolation and depression.

In the eighteenth model predicting depression (see Table 21), isolation but not hedonia was a significant predictor. Levels of isolation were positively associated with levels of depression. While the overall model significantly predicted depression, $R^2 = .21$, $F(3, 152) = 12.11$, $p = .000$, there was no moderation effect of hedonia on the relationship between isolation and depression.

Table 21
Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Isolation Predicting Depression

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Isolation	.47	.39	5.93	.000
Hedonia	-.07	.07	-0.97	.336
Isolation * Hedonia	-.02	.01	-1.60	.112

Anxiety

Although 18 moderation analyses were run with anxiety as dependent variable, no moderation effects were found. Those with significant main effects of minority stressors, eudaimonia and hedonia are reported below.

In the first model predicting anxiety (see Table 22), vigilance and eudaimonia were significant predictors. Levels of vigilance were positively associated with levels of anxiety, while eudaimonia was negatively associated with anxiety. While the overall model significantly predicted anxiety, $R^2 = .13$, $F(3, 152) = 5.53$, $p = .001$, there was no moderation effect of eudaimonia on the relationship between vigilance and anxiety.

Table 17
Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Vigilance Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vigilance	.21	.05	3.79	<.001
Eudaimonia	-.09	.06	-1.49	.138
Vigilance * Eudaimonia	.00	.01	.07	.945

In the second model predicting anxiety (see Table 23), vigilance was a significant predictor but not hedonia was not. Levels of vigilance were positively associated with levels of anxiety. While the overall model significantly predicted anxiety, $R^2 = .11$, $F(3, 152) = 4.57$, $p = .004$, there was no moderation effect of hedonia on the relationship between vigilance and anxiety.

Table 23
Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Vigilance Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vigilance	.20	.06	3.64	<.001
Hedonia	.03	.06	0.53	.598
Vigilance * Hedonia	.00	.01	0.13	.898

In the third model predicting anxiety (see Table 24), harassment / discrimination was a significant predictor but eudaimonia was not. Levels of harassment / discrimination were positively associated with levels of anxiety. While the overall model significantly predicted anxiety, $R^2 = .10$, $F(3, 152) = 4.77$, $p = .003$, there was no moderation effect of hedonia on the relationship between isolation and anxiety.

Table 24

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Harassment / Discrimination Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Harassment / Discrimination	.15	.07	2.26	.025
Eudaimonia	-.09	.06	-1.36	.175
Harassment / Discrimination * Eudaimonia	.02	.01	1.72	.088

In the fourth model, neither harassment / discrimination or hedonia significantly predicted anxiety, nor was there a moderation effect.

In the fifth model predicting anxiety (see Table 25), gender expression was a significant predictor but eudaimonia was not. While the overall model significantly predicted anxiety, $R^2 = .13$, $F(3, 152) = 5.86$, $p < .001$, there was no moderation effect of eudaimonia on the relationship between gender expression and anxiety.

Table 25

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Gender Expression Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Gender Expression	.26	.07	3.88	<.001
Eudaimonia	-.05	.07	-0.73	.466
Gender Expression * Eudaimonia	.00	.02	0.28	.777

In the sixth model predicting anxiety (see Table 26), gender expression was a significant predictor but hedonia was not. Levels of gender expression were positively associated with levels of anxiety. While the overall model significantly predicted depression, $R^2 = .13$, $F(3, 152) = 6.02$, $p < .001$, there was no moderation effect of hedonia on the relationship between gender expression and anxiety.

Table 26

Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Gender Expression Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Gender Expression	.26	.06	4.10	<.001
Hedonia	.03	.06	0.51	.608
Gender Expression * Hedonia	.00	.01	.27	.784

In the seventh model, neither parenting or eudaimonia were significant predictors of anxiety, nor was there a moderation effect.

In the eighth model, neither parenting or hedonia were significant predictors of anxiety, nor was there a moderation effect.

In the ninth model, neither victimisation or eudaimonia were significant predictors of anxiety, nor was there a moderation effect.

In the tenth model, neither victimisation or hedonia were significant predictors of anxiety, nor was there a moderation effect.

In the eleventh model, neither family of origin or eudaimonia were significant predictors of anxiety, nor was there a moderation effect.

In the twelfth model, neither family of origin or hedonia were significant predictors of anxiety, nor was there a moderation effect.

In the thirteenth model predicting anxiety (see Table 27), vicarious trauma was a significant predictor but eudaimonia was not. Levels of vicarious trauma were positively associated with levels of anxiety. While the overall model significantly predicted anxiety, $R^2 = .08$, $F(3, 152) = 5.21$, $p = .002$, there was no moderation effect of eudaimonia on the relationship between vicarious trauma and anxiety.

Table 27
Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Vicarious Trauma Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vicarious Trauma	.18	.05	3.54	<.001
Eudaimonia	-.10	.06	-1.65	.102
Vicarious Trauma * Eudaimonia	.01	.01	0.67	.504

In the fourteenth model predicting anxiety (see Table 28), vicarious trauma was a significant predictor but hedonia was not. Levels of vicarious trauma were positively associated with levels of anxiety. While the overall model significantly predicted anxiety, $R^2 = .06$, $F(3, 152) = 3.36$, $p = .020$, there was no moderation effect of hedonia on the relationship between vicarious trauma and anxiety.

Table 28

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Harassment / Discrimination Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vicarious Trauma	.17	.05	3.16	.002
Hedonia	.02	.06	0.38	.175
Vicarious Trauma * Hedonia	.00	.01	-0.42	.678

In the fifteenth model predicting anxiety (see Table 29), isolation was a significant predictor but eudaimonia was not. Levels of isolation were positively associated with levels of anxiety. While the overall model significantly predicted anxiety, $R^2 = .06$, $F(3, 152) = 3.86$, $p = .011$, there was no moderation effect of hedonia on the relationship between isolation and anxiety.

Table 29

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Isolation Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Isolation	.20	.06	3.18	.002
Eudaimonia	-.06	.07	-0.89	.375
Isolation * Eudaimonia	.00	.01	0.11	.916

In the sixteenth model predicting anxiety (see Table 30), isolation was a significant predictor but hedonia was not. Levels of isolation were positively associated with levels of anxiety. While the overall model significantly predicted anxiety, $R^2 = .06$, $F(3, 152) = 3.96$, $p = .009$, there was no moderation effect of hedonia on the relationship between isolation and anxiety.

Table 30

Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Isolation Predicting Anxiety

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Isolation	.21	.06	3.38	<.001
Hedonia	.03	.06	0.49	.627
Isolation * Hedonia	.00	.01	-0.43	.666

In the seventeenth model, neither HIV / AIDS or eudaimonia were significant predictors, nor was there a moderation effect.

In the eighteenth model, neither HIV / AIDS or hedonia were significant predictors, nor was there a moderation effect.

Stress

Although 18 moderation analyses were run with stress as dependent variable, no moderation effects were found. Those with significant main effects of minority stressors, eudaimonia and hedonia are reported below. These moderation analyses yielded a very similar pattern of results to those predicting anxiety.

In the first model predicting stress (see Table 31), vigilance was a significant predictor but eudaimonia was not. Levels of vigilance were positively associated with levels of anxiety, while eudaimonia was negatively associated with stress. While the overall model significantly predicted stress, $R^2 = .13$, $F(3, 152) = 5.64$, $p = .001$, there was no moderation effect of eudaimonia on the relationship between vigilance and stress.

Table 31
Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Vigilance Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vigilance	.22	.05	4.08	.000
Eudaimonia	-.06	.08	-0.80	.423
Vigilance * Eudaimonia	.00	.01	-0.03	.975

In the second model predicting stress (see Table 32), vigilance was a significant predictor but not hedonia was not. Levels of vigilance were positively associated with levels of depression. While the overall model significantly predicted depression, $R^2 = .15$, $F(3, 152) = 6.47$, $p = .000$, there was no moderation effect of hedonia on the relationship between vigilance and stress although this approached significance.

Table 32
Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Vigilance Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vigilance	.21	.06	3.65	.000
Hedonia	.04	.06	0.67	.501
Vigilance * Hedonia	-.02	.01	-1.93	.056

In the third model, neither harassment / discrimination or eudaimonia significantly predicted stress, nor was there a moderation effect.

In the fourth model, neither harassment / discrimination or hedonia significantly predicted stress, nor was there a moderation effect.

In the fifth model predicting stress (see Table 33), gender expression was a significant predictor but eudaimonia was not. Levels of gender expression were positively associated with levels of stress. While the overall model significantly predicted stress, $R^2 = .10$, $F(3, 152) = 4.48$, $p = .005$, there was no moderation effect of eudaimonia on the relationship between gender expression and stress.

Table 33
Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Gender Expression Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	SE	<i>t</i>	<i>p</i>
Gender Expression	.23	.06	3.32	.001
Eudaimonia	-.02	.08	-0.31	.758
Gender Expression * Eudaimonia	-.01	.02	-0.36	.721

In the sixth model predicting stress (see Table 34), gender expression was a significant predictor but hedonia was not. Levels of gender expression were positively associated with levels of stress. While the overall model significantly predicted depression, $R^2 = .11$, $F(3, 152) = 5.16$, $p = .002$, there was no moderation effect of hedonia on the relationship between gender expression and stress.

Table 34
Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Gender Expression Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	SE	<i>t</i>	<i>p</i>
Gender Expression	.23	.06	3.57	<.001
Hedonia	.01	.06	0.23	.816
Gender Expression * Hedonia	-.01	.01	-1.22	.224

In the seventh model, neither parenting or eudaimonia significantly predicted stress, nor was there a moderation effect.

In the eighth model, neither parenting or hedonia significantly predicted stress, nor was there a moderation effect.

In the ninth model, neither victimisation or eudaimonia significantly predicted stress, nor was there a moderation effect.

In the tenth model, neither victimisation or hedonia significantly predicted stress, nor was there a moderation effect.

In the eleventh model, neither family of origin or eudaimonia significantly predicted stress, nor was there a moderation effect.

In the twelfth model predicting stress (see Table 35), neither family of origin or hedonia were significant predictors, yet the interaction of these two variables did significantly predict levels of stress. The overall model did not predict stress.

Table 35
Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Family of Origin Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Family of Origin	.01	.06	0.10	.922
Hedonia	.02	.07	0.25	.807
Family of Origin * Hedonia	-.02	.01	-2.04	.043

In the thirteenth model predicting stress (see Table 36), vicarious trauma was a significant predictor but eudaimonia was not. Levels of vicarious trauma were positively associated with levels of stress. The overall model did not predict stress and there was no moderation effect of eudaimonia on the relationship between vicarious trauma and anxiety.

Table 36
Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Vicarious Trauma Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vicarious Trauma	.15	.06	2.56	.011
Eudaimonia	-.06	.08	-0.75	.455
Vicarious Trauma * Eudaimonia	.15	.01	0.19	.852

In the fourteenth model predicting stress (see Table 37), vicarious trauma was a significant predictor but hedonia was not. Levels of vicarious trauma were positively associated with levels of anxiety. While the overall model significantly predicted anxiety, $R^2 = .07$, $F(3, 152) = 2.91$, $p = .037$, there was no moderation effect of hedonia on the relationship between vicarious trauma and stress.

Table 37

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Harassment / Discrimination Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Vicarious Trauma	.13	.06	2.37	.019
Hedonia	.02	.06	0.29	.770
Vicarious Trauma * Hedonia	-.02	.01	-1.68	.095

In the fifteenth model predicting stress (see Table 38), isolation was a significant predictor but eudaimonia was not. Levels of isolation were positively associated with levels of stress. While the overall model significantly predicted stress, $R^2 = .09$, $F(3, 152) = 4.93$, $p = .003$, there was no moderation effect of hedonia on the relationship between isolation and stress.

Table 38

Unstandardised Regression Coefficients for the Analyses with Eudaimonia as Moderator of Isolation Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Isolation	.26	.07	3.74	.000
Eudaimonia	-.03	.07	-0.35	.726
Isolation * Eudaimonia	-.01	.02	-0.55	.583

In the sixteenth model predicting stress (see Table 39), isolation was a significant predictor but hedonia was not. Levels of isolation were positively associated with levels of stress. While the overall model significantly predicted stress, $R^2 = .11$, $F(3, 152) = 5.76$, $p < .001$, there was no moderation effect of hedonia on the relationship between isolation and anxiety, although this approached significance.

Table 39

Unstandardised Regression Coefficients for the Analyses with Hedonia as Moderator of Isolation Predicting Stress

Predictor variables	Coefficient(<i>b</i>)	<i>SE</i>	<i>t</i>	<i>p</i>
Isolation	.28	.07	3.91	.000
Hedonia	.02	.06	0.38	.703
Isolation * Hedonia	-.02	.01	-1.93	.06

In the seventeenth model, neither HIV / AIDS or eudaimonia were significant predictors of stress, nor was there a moderation effect.

In the eighteenth model, neither HIV / AIDS or hedonia were significant predictors of stress, nor was there a moderation effect.

Mediating Effect of Self-esteem on the Relationship Between Eudaimonia and Depression

Mediation is another method of discovering how and when an association between variables exists (Hayes, 2013), and implies an effect of an independent variable on a dependent variable is explained by the influence of a third mediator variable. A mediator is both caused by the independent variable and itself a cause of the dependent variable (Baron & Kenny, 1986; Hayes, 2013). Another aim of the current study was to investigate how self-esteem fits in the minority stress model, as it is less clear than other variables whether it is best considered an outcome or a predictor (see pages 41-45). In line with minority stress theory (Meyer, 2003), earlier analyses have been conducted with the assumption that self-esteem is a psychological outcome, alongside aspects of psychological distress, that may be predicted by minority stress experiences. However, it is also feasible to hypothesise that self-esteem is itself a predictor of psychological outcomes, so that the inverse relationship between eudaimonia and depression may be in part due to the influence of self-esteem. As per earlier predictions (see page 43), a model was proposed whereby the effect of eudaimonia may mediate the relationship between depression and self-esteem, such that greater eudaimonic activity might be associated with increased self-esteem and, in turn, less psychological distress. Results of earlier analyses suggest this model may apply specifically to depression. It was proposed that eudaimonia might be associated with greater self-esteem, which could explain for the association of eudaimonia with lower depression.

To test proposed mediation effects of self-esteem on relationships between eudaimonia and depression, bootstrap analyses were conducted using SPSS PROCESS (Hayes, 2013: Model 4). A priori power analyses revealed that the sample size was adequate to detect medium sized effects of .15 at the .05 significance level (Faul et al., 2007). Power analyses were conducted using G*Power for an F Test of Linear Multiple Regression-Fixed Model R square deviation from zero with two predictor variables (eudaimonia and self-esteem). It was found that for an 80% power study a sample of 68 was required and a 95% power study required a sample of 107. Data screening for statistical outliers did not suggest any data be excluded on this basis.

Mediation involves a series of regressions to establish if a mediating effect is present and to what extent (results shown in Table 13). Step 1 (path c) of the mediation model, the regression of eudaimonia on depression, ignoring the mediator, was significant and accounted for 6.7% of the variance on depression, $F(1, 154) = 11.07, p = .001, R^2 = .067$. Step 2 (path a)

showed that in the regression with eudaimonia on the mediator, self-esteem, was significant, $F(1, 154) = 12.75, p < .001, R^2 = .076$. Step 3 (path b) showed that the mediator (self-esteem), controlling for eudaimonia, was also significant, $F(2,153) = 121.51, p = .000, R^2 = .61$. Step 4 (path c') of the analysis revealed that, when controlling for mediator (self-esteem), eudaimonia scores did not significantly predict depression. To clarify, when accounting for the influence of self-esteem, eudaimonia no longer exerted a significant effect on depression.

Table 13
Mediating Effect of Self-Esteem on the Relationship Between Eudaimonia and Depression

Mediation	<i>b</i>	<i>SE</i>	<i>t(df = 154)</i>	<i>p</i>
Step 1 Eudaimonia → Self-Esteem → Depression (c)	-.23	.07	-3.33	.001
Step 2 Eudaimonia → Self-esteem (a)	.32	.09	3.57	.000
Step 3 Self-esteem → Depression (b)	-.61	.04	-14.71	.000
Step 4 Eudaimonia → Depression (c')	-.04	.05	-0.89	.377

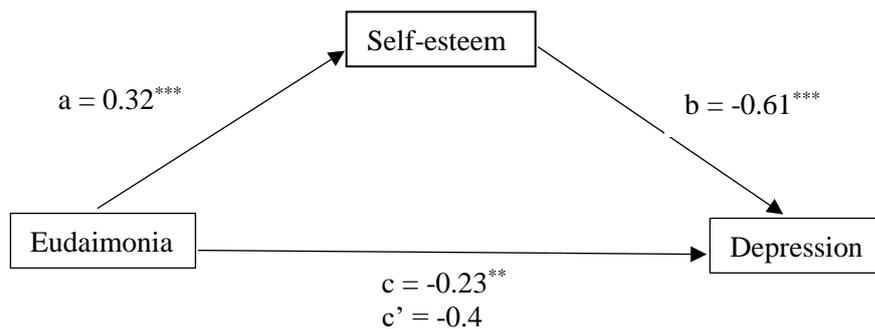


Figure 2
Mediating Effect of Self-esteem on the Relationship Between Eudaimonia and Depression

Taken together, these results indicate self-esteem fully mediated the decrease in depression with increases in eudaimonia, which was confirmed by a Sobel test, $z = -3.46, p < .001$ (see Figure 2).

Summary of Findings

Data analyses revealed between group differences as a function of gender, sexual orientation, education level, and relationship status. Females reported greater stress and gender expression, while males reported more HIV/AIDS related concerns. When comparing male and female bisexuals, males reported greater harassment/discrimination and HIV/AIDS concerns than did females. Excluding bisexual men: Lesbians reported more harassment/discrimination and gender expression concerns than both gay men and bisexual women; and bisexual women reported significantly more stress than gay men, but not lesbians. Including bisexual men: Lesbians reported more harassment/discrimination and gender expression concerns than gay men, but not bisexuals; and bisexuals reported more stress than both gay men and lesbians. Gay men reported greatest scores for HIV/AIDS in both group analyses. Minority stress varied between education level groups with several significant yet indecipherable findings. Those in relationship were less isolated, less depressed, and had better self-esteem.

Bivariate correlations of variables found many minority stress subscales positively correlated and none negatively. Psychological distress scales all correlated positively with one another, as well as with several minority stress variables, and were negatively correlated with age. Self-esteem inversely correlated with anxiety and depression, and positively with age, eudaimonia and hedonia. Eudaimonia and hedonia also showed some overlap. Hedonia negatively correlated with parenting and family of origin stress. Multiple regression analyses revealed that minority stress had a combined influence on increasing depression scores, with gender expression and isolation emerging as unique predictors. An inversion of this pattern was found for self-esteem, with high minority stress scores associated with lower self-esteem scores. Similarly, minority stress factors had a combined influence on increased anxiety and stress scores, with gender expression and vigilance emerging as significant unique predictors.

Influence of hedonic and eudaimonic activity on the established relationships from regressions was undertaken using moderation and mediation analyses. Of these analyses, the only moderating influence of eudaimonic activity was on the relationship between isolation and depression. This moderating influence was such that at high levels of eudaimonia, there was no longer a significant relationship between isolation and depression. Exploring these relationships further, mediation analyses indicated that self-esteem largely accounted for the relationship between eudaimonia and depression, indicating that eudaimonia was related to depression via self-esteem.

Chapter 7: Discussion

The current study examined two sets of issues around the minority stress experiences of LGB people. Firstly, the main contributors among proposed minority stressors on psychological distress (depression, anxiety, and stress) were explored. Secondly, some potential protective factors that may ameliorate minority stress effects were investigated. Results identified the most influential minority stressors on each of the psychological distress outcomes, while the role of eudaimonia as a moderating factor was implicated to a modest extent. The main purpose of this chapter is to discuss the findings and their implications in detail, but first a brief overview of the results is provided.

Overview of Results

Demographic influences provided context to the findings, with age emerging as a major factor of psychological distress for LGB people, such that psychological distress tended to reduce with age. Although differences regarding education level were found, they were inconsistent and did not appear to suggest any systematic pattern or support established theory. Differences between gender and sexual orientation groups suggested divergent experiences of sexual minority stress.

The first exploratory analyses aimed to identify the corelating aspects of minority stress with psychological distress for LGB people. Examining depression, anxiety, and stress separately as outcomes of all minority stressors did uncover some differential associations. That gender expression correlated with all three aspects of psychological distress (depression, anxiety, and stress) and self-esteem was notable, and thus warrants theoretical consideration, as provided below in this chapter. More expected were the positive association between isolation and depression, and between vigilance and both anxiety and stress. That no other minority stress subtypes measured were associated with psychological distress or wellbeing was somewhat unexpected, and again is discussed in detail later in this chapter.

It was proposed that eudaimonia may perform a psychologically protective function amid minority stress for LGB people, and modest support was found for this assertion. When participants reported relatively greater levels of eudaimonic activity, they tended to experience less depression, even in the presence of a positive relationship between isolation and depression. Investigation of a proposed pathway found evidence that self-esteem explained the negative association between eudaimonia and depression.

Gender

Differences between men and women in the sample were evident in findings that lesbian and bisexual females tended to suffer more gender expression minority stress and were more anxious, while men predictably tended to suffer greater stress associated with HIV/AIDS. In interpreting these findings, it may be considered that previous research has shown sexual minority women may be subject to a dual social stigmatisation (Lewis et al., 2012). Lesbian and bisexual women can experience sexual minority stress in response to their gender expression that probably intersects with unequal treatment that women receive generally. Moreover, it seems likely that minority stress related to gender expression occurs such that lesbians who more gender atypical receive more overt forms of discrimination and harassment (D'Augelli et al., 2006). This dual stigma likely accounts for why lesbians and bisexual women in the present sample experienced significantly more anxiety and gender expression stress. The finding that men experienced more HIV/AIDS related stress is almost certainly due to the greater risks of infection for gay and bisexual men, as is discussed further in the sexual orientation section.

Conceptual Issues for Gender

A previously noted conceptual issue surrounds the forced-choice format for measuring gender (Worthington & Reynolds, 2009). Notably, there was a substantial portion of participants who self-described as 'other' when asked their gender, with elaborated responses including 'gender fluid', 'gender queer', 'agendered', 'transmasculine', 'non-binary', and 'femme'. This observation aligns with Moradi, Mohr, et al. (2009) noting that an increasing portion of the LGB population may reject binary labels in identifying their own gender, or the gender of those they are attracted to. Social cognitive theory may also help to provide some insight into these observations (Bussey & Bandura, 1999; Moradi, Mohr, et al., 2009). Bussey and Bandura (1999) proffer social cognitive theory to describe gender conceptions and roles as the by-product of broad social influences, ranging from biological potentialities to the social and self-construction of gender. The observed resistance of gender identification may be viewed as reflecting changes to gender representation on a few interacting levels: personal, behavioural, and environmental. On a personal level, gender-linked conceptions, behavioural and judgemental standards, and self-regulatory influences are increasingly challenged by many people. Social cognitive theory make sense of how changes on a personal level are reflected in observable behaviours and attitudes around gender.

Further, environmental influences on gender comprise of networks of socio-cultural practices, that intersect with the personal and behavioural.

Concepts around gender and sexual orientation are often conflated, and particularly for transgendered and intersex gendered people (Fassinger & Arseneau, 2007; Moradi, Mohr, et al., 2009). To maintain separation of gender and sexual orientation concepts in this study, participants could identify as transgendered but not their sexual orientation in that context (e.g., a transgender female who identifies as lesbian), which could potentially have caused confusion or angst for some respondents. Other researchers have noted that self-identification has become increasingly complicated among sexual and gender minorities as outdated terms are discarded and new terms are added to the lexicon of an expanding list of possible identities (Phillips et al., 2003; Worthington & Reynolds, 2009). With these considerations in mind, a degree of caution and awareness of measurement limitations must be included in the interpretation of results using categories of gender and sexual orientation.

Sexual Orientation

Some differences were seen in results between sexual orientation groups. Bisexuals were more stressed than both their lesbian and gay male counterparts. Lesbians reported more discrimination and harassment than both bisexuals and gay men, and more gender expression concerns than gay men. HIV/AIDS was of more concern to gay men than lesbians and bisexuals. Since bisexual men were included in the bisexual group with females due to small numbers, it seems likely this would have obscured any differences in HIV/AIDS-related stress between bisexual and gay men in the sample. Though current results accorded with findings of more HIV/AIDS concerns among gay men (Meyer, 2003; Shilts, 1987), they did not otherwise support the notion that sexual minority men experience more distal minority stress than sexual minority women (D'Augelli, 2006; Herek, 2008).

Current findings of greater stress levels among bisexuals compared with both gay men or lesbians warrant consideration. At first glance it may be assumed this difference is due to suffering more LGB minority stressors such as vigilance due to concealment (Meyer, 2003; Ross et al., 2010). However, lack of differences regarding the vigilance stressor render this explanation unlikely. Also notable is the lack of difference between bisexuals, lesbians and gay men in anxiety or depression. As such, differences in psychological distress as a function of sexual orientation in the present study appear to be limited to levels of stress, which incidentally were also higher overall for each group than levels of depression and anxiety.

Based on previous research (Ross et al., 2010) it seems plausible that the comparatively greater stress among bisexuals is due to additional minority stress associated with being bisexual, sometimes referred to as biphobia. As bisexuality is often less conspicuous than other forms of sexual orientation, it has been proposed that bisexual people may suffer less distal stressors, such as overt discrimination, and more proximal stressors, such as internalised homonegativity and concealment motivation (Lewis, Derlega, Brown, & Rose, 2009). In this research, higher levels of stress among bisexuals may reflect such proximal stressors associated with bisexuality that were not measured. However, this interpretation would require further research to be confirmed.

Harassment and discrimination has been commonly reported as experienced more by sexual minority men than women (D'Augelli, 2006; Herek, 2008). In this study, greater reports of harassment and discrimination by bisexual men than bisexual women somewhat support this. However, this finding should be interpreted with caution as numbers were insufficient in the bisexual male group to make comparisons with adequate statistical power. That lesbians reported greater harassment and discrimination than both bisexual women and gay men was unexpected, given tendencies in previous research to see elevated harassment and discrimination for sexual minority men (D'Augelli, 2006; Herek, 2008). Any interpretation of this result should therefore be tentative. It may be that lesbians in the sample are more 'out' or gender atypical than the bisexuals and gay men sampled, which could account for differences found. This would also be consistent with the previous reports of greater gender expression-related stress for women among LGB people. Similarly, bisexuals and gay men in this study may tend toward concealment, which might explain the greater stress among bisexuals at least (Levitt et al., 2016). Alternatively, lesbians in the sample may have reported more harassment and discrimination due to another influence, such as multiple minority identities (Levitt et al., 2016), which cannot be ascertained from the data gathered. That greater reports of harassment and discrimination did not coincide with differences in psychological wellbeing suggests that the lesbians in the sample could manage this elevated minority stress.

Gender expression has often been found to be of greater concern for gay and bisexual men than lesbian and bisexual women (D'Augelli et al., 2006; Hamilton & Mahalik, 2009; Mink et al., 2014). It was therefore unexpected that lesbians reported the most minority stress due to concerns around gender expression. It has been suggested that being gender atypical may be less concealable than one's sexual orientation or serve as a proxy or visual identifier

for being a member of a sexual minority, thus attracting other forms of minority stress (D'Augelli et al., 2006). D'Augelli et al. (2006) described that the impact on the individual of being gender atypical has much to do with the level of acceptance perceived in the social environment for one's gender expression. Gender atypicality is often stressful due to others' reactions that may be internalised over time, a process which tends to occur early in life with damaging consequences (Feinstein et al., 2012). That lesbian women reported greater levels of minority stress around gender expression may reflect a relative social intolerance for certain gender presentations. Lesbians presenting as traditionally masculine, or butch-identified, have been shown to be associated with more overt forms of discrimination, violence, and victimisation than those who present as more traditionally feminine (Levitt et al., 2016; Rosario et al., 2009). It may be that greater gender expression concerns among women in this sample were due to more gender atypical presentation amongst the females sampled. However, this hypothesis is speculative as the study did not gather information around how participants express and outwardly present their gender identity. Future research examining gender expression in more depth would help to elucidate this issue.

There are a few considerations for interpreting results obtained from bisexual people. That bisexual orientation has been found to involve a degree of fluidity and diversity renders research within this population problematic (Diamond, 2008). Bisexual groups are noted to be highly heterogeneous, which is likely to confound attempts to measure bisexual experiences. Similarly, although differences were found between male and female bisexuals, the small number of male bisexuals necessitates caution with interpreting these results. Some researchers have speculated that bisexual identification may be more common in women than men (Sheets & Mohr, 2009), and while more bisexual women participated in this study than bisexual men, this can only be a topic for population-level measurements to consider.

Conceptual Issues for Sexual Orientation

As anticipated as a methodological issue, a portion of participants self-labelled as 'other' sexual orientation and went on to specify a broader range of preferred sexual orientation categories than those suggested. Diverse self-descriptions would suggest a desire among some LGB people, and non-heterosexual females particularly, to defy established labels of sexual orientation. The issue of terminology continues to be fraught since researchers began to investigate sexualities, with broadly varying terms and definitions that

reflect an array of behavioural and dispositional descriptions of sexuality (Sell, 2007; Worthington & Reynolds, 2009).

Sociodemographic Factors

Sample demographics reflected a degree of homogeneity, with most participants born in 'Western' countries (majority in Australia), being of European descent, and residing in urbanised settings at the time of the research. Age of participants was, however, reasonably varied.

Age

Analyses provided support for the previously established notion that in many ways overall health and wellbeing improve for LGB people with age (Berger & Kelly, 2002). Specifically, most minority stress factors and all three measures of psychological distress were negatively correlated with age, whereas self-esteem increased with age. This seems in contrast with well-documented challenges arising among older LGB people, associated with the intersection of age and minority stress (Kuyper & Fokkema, 2010; Lyons et al., 2013; Morrow, 2001). However, the current findings of increased wellbeing for older LGB people may be interpreted as aligning with both above tenets of previous research when viewed with a strengths-based approach. While older LGB people have been found to experience the same if not more age-related challenges as the aging heterosexual population, they also would seem to possess unique strengths in meeting such challenges (Riggle & Rostosky, 2012; Riggle et al., 2008). Illustrating this phenomenon, Lyons et al. (2013) found that although older gay men were more likely to live alone and be financially poorer, they tended to possess strengths in friendships, communities, and self-esteem, and their subjective wellbeing was no worse than younger gay men.

Examining this strengths-based perspective, Berger and Kelly (2002) suggest that gay men can master stigma and develop greater self-reliance throughout the course of their lives. Berger and Kelly (2002) found this was reflected in older gay men being more 'out', having fewer concerns around other's opinions, limited job opportunities due to discrimination, and being more emotionally and financially secure. Similarly, Morrow (2001) found that gay men and lesbians develop psychosocial strengths during their life that help them meet challenges of aging, including crisis competence, gender role flexibility, resilience and independence. As has been found elsewhere, such strengths are suggested to arise through meeting the unique challenges of being gay or lesbian such as coping with self and other social crises, having less

restricted roles and abilities around gender, and coping without traditional supports often through cultivating ‘chosen’ families (Grossman, 2006; Kuyper & Fokkema, 2010; Morrow, 2001; Riggle & Rostosky, 2012; Riggle et al., 2008). It may be reasonably concluded that the relative wellbeing of older LGB people compared with their younger counterparts reflects hard-won resilience rather than absence of sexual minority stress.

One area of minority stress that did increase with age was parenting stress, which was also associated with decreases in hedonia. These findings may make sense when one considers that older LGB people are more likely to be parents than their younger counterparts. Parenthood is a well-established source of stress and likely to be exacerbated by unique elements of minority stress for LGB parents (Gates, 2012). Results are likely explained by a reduced capacity to engage in hedonic activity among LGB parents that aligns with heterosexual populations.

Employment Status

That no differences were found between groups as a function of employment status was surprising, as worse outcomes are generally found for those who are unemployed (Flint, Bartley, Shelton, & Sacker, 2013). It may be worth noting that the group of unemployed participants were variously occupied with study, volunteering, and household duties, and care work, for which they may attain intrinsic psychological rewards. Further, as discrimination is commonly reported for LGB people in workplaces (Meyer & Frost, 2013), this may be another reason that accounts for the lack of difference in wellbeing measures. Employed LGB people may have to navigate minority stress in the workplace, whether by choosing to disclose or concealing their sexual identity, both of which have been shown to be detrimental (Meyer & Frost, 2013). Results may reflect minority stress experiences incumbent in the work environments of participants that somewhat moderates the benefits of employment. Since the survey did not specifically ask about workplace stressors, however, this explanation is speculative and subject to future research.

Level of Education

Differences regarding level of education were found in this study, yet the seemingly unsystematic pattern of results is difficult to interpret. It may have been expected that wellbeing would be higher for those who had completed higher levels of education, but this was not uniformly found. Parenting stress was higher for those who had not completed secondary school than those who had gone on to complete secondary or tertiary study. Self-

esteem was higher for those who had completed either graduate or postgraduate education than those who had completed secondary school. However, self-esteem scores did not differ between those who had completed a trade certificate or diploma or those who had not completed secondary school with other education levels. Those who had completed secondary school reported less depression than those who had gone on to any form of tertiary study. Again, these results do not lend themselves to any clear theoretical explanation.

Residential setting

Lack of any differences found between residential settings in terms of the variables measured is a somewhat surprising result and is inconsistent with previous research showing that young rural Australian gay men appear to be at a considerable disadvantage regarding mental health and well-being compared with their urban counterparts (Lyons, Hosking & Rozbroj, 2015). Lyons, Hosking & Rozbroj found that on average, gay men living in rural Australia had significantly lower self-esteem, lower life satisfaction, lower social support, and were significantly more likely to be psychologically distressed, concerned about acceptance from others, and to conceal their sexual orientation compared to urban gay men. There are several possible explanations for the current findings. Firstly, there were relatively few respondents living rurally, thus detecting any differences reliably was difficult. Excluding rural respondents meant remaining respondents were living in regional towns or cities, which may have little psychosocially-relevant differences compared with urban or suburban settings. While residential setting/geographical differences were not a central focus of this study, future research should continue to examine minority stress experiences of LGB people living in geographically or socially isolated areas.

Relationship Status

This study found that despite the range of minority stressors that can be associated with intimate relationships (Meyer & Frost, 2013), those in a relationship experienced better wellbeing. Among the current sample, those in a relationship were less isolated, less depressed, and had higher self-esteem than those who were not. These findings align with a body of research (Deiner, Gohm, Suh, & Oishi, 2000; Holt-Lunstad, Birmingham, & Jones, 2008) showing that relationships are protective for psychological health and wellbeing. Given that isolation was linked with depression amongst the present sample, it follows that less isolation due to being in a relationship would be associated with lower depression. That self-esteem was also greater for those in a relationship further explains lowered levels of

depression among those in relationships, due to established role of self-esteem in protecting from psychological distress, including depression (Roberts & Gotlib, 1997; Rosenberg, 1965; Szymanski, 2009). Among this sample, it appeared that being in a relationship both buffered against isolation and improved self-esteem, thereby lowering risk of depression. Future longitudinal research examining these factors among LGB people may help to further delineate causal pathways for the psycho-protective role of relationships.

Minority Stress

The primary aim of the current study was to determine which out of the proposed range of sexual minority stressors (Balsam, Beadnell, & Molina, 2013; Meyer & Frost, 2013) were most related to the mental health of LGB people. Gender expression, vigilance, and isolation were all shown to negatively associated with psychological wellbeing, but in differing ways. To recap, gender expression emerged as the most influential predictor of psychological wellbeing, having the strongest association on all three measures of psychological distress (depression, anxiety, and stress), as well as on self-esteem. All these relationships were in the expected directions, in that greater gender expression concerns were predictive of higher levels of psychological distress and lower self-esteem. Furthermore, greater isolation was predictive of higher depression and lower self-esteem, whereas greater vigilance was predictive of higher anxiety and stress. The possible implications of these findings are discussed in turn in the following sections.

Gender Expression

The present findings regarding gender expression concerns are aligned with previous research findings on the detrimental relationship between minority stress and gender expression among LGB people (Moradi, Mohr, et al., 2009). This phenomenon is likely to be attributable to the degree to which an individual feels their expression of gender is accepted within their social environment (D'Augelli et al., 2006); thus, the role of gender nonconformity is considered in the following sections. For consistency and clarity, the terms 'gender nonconformity' and 'gender nonconforming' are used and are treated as being synonymous with 'gender atypicality' and 'gender atypical', respectively.

Gender Nonconformity

Gender expression may be described as personal behaviours and characteristics relating to gender that are visible to others, such as physical appearance, clothing, and

mannerisms (Moradi, Mohr, et al., 2009). In attempting to understand how gender expression can be such a substantial source of stress for LGB individuals, one may examine the influence of gender nonconformity throughout the lifespan. Research has largely found gender nonconformity to be costly to the individual in terms of psychosocial wellbeing (D'Augelli et al., 2006). For example, gender nonconformity has been shown to mediate the association between high school victimisation and poor psychosocial adjustment among LGB people (Toomey et al., 2010). Similarly, gender nonconformity is thought to be detrimental to self-esteem through low peer acceptance (Smith & Leaper, 2006). LGB individuals who act in ways that are inconsistent with gender role expectations may experience pressure to conform, heightened self-monitoring, anticipation of judgement, and even overt hostility or rejection (Mink et al., 2014). Being gender nonconforming seems to serve as a visual marker of potential sexual minority status individuals, and thus may be the focal point for subsequent minority stress. Similarly, challenging gender roles and stereotypes may cause an individual to be at odds with aspects of their social environment. Meyer, Ouellette, Haile, and McFarlane (2011) suggested it is precisely this type of disharmony between an individual and their environment that is at the core of minority stress.

Investigation of the individual contributions of gender nonconformity and sexual orientation on wellbeing suggests that gender nonconformity may be the more relevant (Rieger & Savin-Williams, 2012). Attachment theory has been drawn on in suggesting that poor relational outcomes of gender nonconforming individuals is a possible explanation for the impact of gender expression on psychological wellbeing. Experiences of rejection based on gender by both parents and peers is likely to lead to chronic psychological distress and avoidance of intimacy (Landolt, Bartholomew, Saffrey, Oram, & Pearlman, 2004). Gender nonconforming youth have been found to perceive that others, including parents, had a negative view of their gender nonconformity (D'Augelli et al., 2006). Self-awareness of gender nonconformity has been reported to present as young as four years of age, and usually by the age of eight (D'Augelli et al., 2006; Rieger & Savin-Williams, 2012), and this is likely to occur earlier than self-awareness of sexual orientation, thus having a greater impact on developmental trajectory. Behaviours that diverge from traditional gender roles are often met with disapproval or even punishment (D'Augelli et al., 2006). Demonstrating this, gender nonconformity in childhood has been identified as a significant antecedent to experiences of discrimination and rejection sensitivity (Feinstein et al., 2012). Thus, it can be speculated that well before gender nonconforming LGB children are exposed to the criticism of peers, they

have already experienced the disapproval of their parents. D'Augelli et al. (2006) describe how messages received from reactions in the social environment regarding gender are likely to be internalised in some way. Perhaps as gender nonconformity is problematic from such a young age it is internalised as a chronic and persistent sense of “difference”, which may be why it emerges as the strongest and most consistent predictor of psychological distress.

Gender Nonconformity in Women

Given that powerful models are most influential, living in societies that subordinate women may lead many young women to devalue their gender (Bussey & Bandura, 1999). For young girls, a dearth of exposure to powerful women may mean they are more likely to observe and emulate males as the more powerful agents. Young girls may feel conflicted at times whether to learn from observing traditional female models or others who they perceive to be more socially dominant, who are likely to be men. Conflicting gender modelling and awareness of gender role stereotypes may lead females particularly to challenge these stereotypes.

As discussed previously, sexual minority women tend to vary in the degree to which they may be characterised as ‘butch’ or ‘femme’, identities which have found to be based on appearance, gender roles, and emotional expression (Lehavot & Simoni, 2011; Levitt et al., 2012; Rosario et al., 2009). While gender nonconforming females and males are both likely to experience minority stress, some have suggested that adoption of masculinity by females can be advantageous (Rieger & Savin-Williams, 2012). Levitt et al. (2012) noted that butch-identified LGB women tend to be more ‘out’, and to encounter more experiences of violence, threats of violence, discrimination, and victimization. Yet Levitt et. al. found that butch-identified women may utilise more social supports and have lower levels of psychological distress than both femme-identified women, traditionally gendered women, and non-traditionally gendered women. Accordingly, researchers have observed that lesbians who defy traditional gender-defined characteristics, expressing more butch characteristics, may be more subject to overt social pressures, while femme lesbians are more likely to experience internalised homophobia (Lehavot & Simoni, 2011; M. Rosario et al., 1996).

Gender Nonconformity in Men

Gay and bisexual men have been found to experience more victimisation than sexual minority women, in large part due to gender nonconformity (D'Augelli et al., 2006). Gay and

bisexual men are more vulnerable to pressure to conform to social norms around masculinity, and this has been shown to have a detrimental impact on their health (Hamilton & Mahalik, 2009; Mink et al., 2014). Failure to comply with norms can lead to overt hostility; gay and bisexual men who present a more traditionally feminine expression of gender are more likely to be victimised by heterosexual men (D'Augelli et al., 2006; Mink et al., 2014). Attackers of gender nonconforming youth tend to be male, and males are more often victimised (D'Augelli et al., 2006). Mink et al. (2014) explain how heightened anticipation of judgement combined with constant self-monitoring and threat appraisal is common among men with nonconforming gender expression. Conversely, gay men who conform to heterosexual norms have worse physical and psychological health and are more likely to engage in behaviours that placed them at risk, including substance use and risky sexual behaviour (Hamilton & Mahalik, 2009).

Conclusion on Gender Atypicality

Amongst those in this study it appeared that stress related to gender expression was more associated with psychological distress than other minority stressors. Given current and previous findings (Rieger & Savin-Williams, 2012), it seems likely that gender nonconformity is at least partially responsible for psychological distress among LGB people, perhaps more so than sexual orientation. To investigate this claim, further research may aim to compare the impact of gender nonconformity amongst heterosexual as well as sexual minority individuals.

In trying to understand minority stress processes of gender expression, it may be speculated that experiences of stress relating to gender nonconformity begin early in the lives of many LGB people and are ongoing throughout many social settings including school and work, leading to experiences of rejection, exclusion and isolation, and consequently the kind of psychological ill-health examined in this study. Minority stress processes related to gender expression would likely be associated with chronically high levels of vigilance around attempts to manage whether one will be accepted or rejected. Indeed, in the present study gender expression concerns were correlated with levels of vigilance. Moreover, chronic vigilance combined with experiences of non-acceptance throughout the lifespan is likely to contribute to the experience of isolation, another notion which was somewhat supported in the present study by the significant associations between isolation and both gender expression concerns and vigilance. Thus, symptoms of depression, anxiety, and stress, as well as lowered

self-esteem, appear to be outcomes of the suggested minority stress processes surrounding gender expression and gender nonconformity. Evidence to suggest that males particularly act as enforcers of gender norm violations, accounting for much of the discrimination against sexual minorities (Rieger & Savin-Williams, 2012), may suggest opportunities for research and intervention.

Vigilance

Vigilance was found to be strongly predictive of both anxiety and stress among the current sample. This aligns with previous findings of stress related to vigilance among sexual minorities (Hatzenbuehler, 2009; Levitt et al., 2016). Although distinct, anxiety and stress are considered highly related constructs of psychological distress, with similar causes and symptoms (Lovibond & Lovibond, 1995). Sexual minority status has previously been linked with higher levels of social anxiety symptoms, fear of negative evaluation and social avoidance (Szymanski et al., 2008a). The experience of vigilance is strongly interwoven with anxiety and stress symptoms. Stress in chronic or acute forms, including trauma, is a known precursor to states of hypervigilance and anxiety, which in turn are sources of stress. For example, vigilance tends to take a toll on physical as well as mental health, and has been found to disrupt eating, sleeping and other aspects of physical health that exacerbate stress and anxiety in a cyclical manner (Levitt et al., 2016).

Living with a concealable stigmatised identity means LGB people tend to be vigilant for indicators in the social environment that are either affirming or threatening of their identity (Levitt et al., 2016; Quinn & Chaudoir, 2009). Vigilance is often experienced by LGB individuals when considering whether to disclose their sexual orientation. In making these decisions, LGB people need to balance conflicting needs to reduce risk of interpersonal rejection, guilt around concealment, relational complications, or unwanted exposure when opting not to disclose (Levitt et al., 2016). Indeed, heightened anticipation of judgement combined with constant self-monitoring and threat appraisal is common among sexual minority men, particularly those with atypical gender expression (Mink et al., 2014). LGB people describe a continual process of risk assessment to evaluate their social environment for cues and use of strategies to screening others' attitudes (Levitt et al., 2016). Though stressful, this vigilance serves to inform calculated choices about interpersonal risk, as to whether they are affirming or would be best met by concealing sexual minority identity.

When concealment is decided on as the safest course of option, LGB individuals report constant monitoring and adjusting their own speech, appearance, and behaviour, despite psychological distress from having to do so (Levitt et al., 2016). Internal processes of hiding aspects of the self are stressful and thwart opportunities for social support and affirmation (Meyer, 2003). Meyer et al. (2011) describe how anticipation of stigma can lead sexual minority individuals to become preoccupied, suspicious, and vigilant for potential stigmatisation, and may become socially withdrawn or avoidant to protect themselves from such risks. In this way, anticipation of stigma can create a cognitive burden, and cause a variety of psychosocial problems, such as impaired performance in social and academic situations. Moreover, anticipation of social stigma can contribute to the likelihood of someone experiencing stigmatisation, which further embeds anticipation of future negative responses (Meyer et al., 2011).

Even when concealment prevents an LGB person experiencing overt minority stress, LGB individuals are often subject to social environments in which homophobic attitudes are expressed (Balsam & Hughes, 2012). A qualitative study of LGB people found a common perception of being out of harmony with the social environment and a pervasive lack of safety and acceptance, arising from the cumulative impact of minor everyday hassles and non-events (anticipated events that are thwarted) (Meyer et al., 2011). With such exposure, LGB people tend to internalise negative attitudes and assumptions that are encountered in society (Szymanski et al., 2008a) (Szymanski, 2009). Psychological processes of guilt and internalised threat have been found to play a role in internalising homonegativity amongst lesbians and gay men (Moradi, van den Berg, et al., 2009). Internalised homosexism has been linked to more conflict concerning sexual orientation, increased frequency of passing as a heterosexual, more avoidant coping, less social support, less satisfaction with social support, and less connection with the LGB community (Szymanski, 2009). Whether vigilance was caused by internalised homosexism in the current sample is unclear and may be addressed in future research. Given that vigilance and gender expression are interrelated and are both associated with greater levels of anxiety and stress, it seems plausible that chronic vigilance around one's gender expression lends toward symptoms of anxiety and stress among LGB people.

Isolation

Participants in the LGB sample who reported more isolation suffered more depression and had lower self-esteem. These results are unsurprising and align with previous findings

that social isolation has damaging impacts on psychological and physical wellbeing (Holt-Lunstad et al., 2010; House, 2001). That isolation was associated with depression in this sample also provides further support for minority stress within the LGB population (Aylaz et al., 2012; Cacioppo et al., 2006). One may argue that LGB people are at greater risk of isolation resulting from sexual and/or gender-related minority stress processes, including a motivation to remove themselves from threatening social environments, which are likely to contribute to depression as well as low self-esteem (Meyer, 2003).

Isolation and depression have long been theoretically associated (Cacioppo, Hawkley, Norman, & Berntson, 2011; Cacioppo et al., 2006). Émile Durkheim (1951) provided one of the earliest theories for social isolation causing depression, positing that the more socially isolated the individual becomes, so does their risk of depression and suicide. Social networking theory and attachment theory (Bowlby, 1969) similarly linked the quality of social attachment based on early caregiver relationships to one's mental wellbeing. Supporting early theory, lack of relational connectedness has been empirically linked with depression (Choenarom et al., 2005). Notably, it is often found that quality of social interaction rather than quantity more directly affects depression (Cacioppo et al., 2011). Perceived lack of quality social interaction may be more accurately described as loneliness rather than isolation, and although separate aspects of experience, reciprocal determinism is thought to occur between depression and loneliness (Cacioppo et al., 2006). Taken together, there seems to be strong support for the notion that loneliness, or perceived lack of sufficient social connectedness, together with non-affirming social environments, play an important role in the interaction between depression and isolation (Cacioppo et al., 2011).

Minority stress occurs for LGB people through occurrences in the social environment and proximal internal mechanisms (Meyer, 2003). Non-affirming social environments might include those that are intolerant of sexual diversity, including religious communities, employers, and educational institutions, in which LGB people tend to experience isolation (Levitt et al., 2016). Social rejection is stressful and may additionally limit resources in managing other aspects of minority stress for LGB people. Painful experiences of social rejection and hostility, particularly during development, mean LGB people may engage in vigilance and concealment of sexual identity (Gordon, 2001; Harrison, 2003). Concealment is a strategy employed to prevent anticipated social rejection, but also thwarts opportunities for genuine connection (Quinn & Chaudoir, 2009). Isolation may then be considered to occur variously through distal processes associated with rejection of one's LGB identity, or more

proximal processes such as social withdrawal for the purposes of self-protection. These processes not only directly influence experience of depression but also thwart potential protective mechanisms that occur through social connection.

Most minority stress factors did not significantly influence psychological distress once other factors were controlled for in the current sample. It was unexpected that psychological distress was not predicted by minority stress relating to harassment/discrimination, parenting, victimisation, family of origin, vicarious trauma, isolation and HIV/AIDS. One possible explanation may be that minority stressors around isolation, gender expression, and vigilance are more chronic and trait-level issues, whereas harassment/discrimination and victimisation are more situational and event-like. Given situational stressors are less common and predictable, this may explain why factors denoting situational stressors factors were less influential on psychological stress. Longitudinal research would be needed to explore this explanation further.

Positive Psychology

Emerging as a complementary and alternative paradigm to the disease model of healthcare, positive psychology aims to better understand and promote conditions that support mental health to flourish (Seligman & Csikszentmihalyi, 2000). Seligman and Csikszentmihalyi (2000) outlined the central tenet of positive psychology to provide perspectives on the human experience that serve to depathologise individuals' experience, beliefs, and actions while helping them focus on their strengths. Accordingly, while furthering understanding of the damaging effects of minority stress have been the initial task of this research, the parallel focus takes a positive psychology approach toward the promotion of psychosocial wellbeing. Combining these two aims, this research reflects a two-continua perspective on mental health for LBG people, in that greater psychological distress because of minority stress experiences does not preclude the potential for aspects of psychosocial wellbeing having been achieved (Meyer, 2003). Accordingly, investigating positive psychology approaches on individual and community levels for the promotion of psychosocial wellbeing among LGB population should continue to include examination of concepts of stress-related growth, LGB strengths, and the potential benefits of eudaimonia and self-esteem.

Hedonic and Eudaimonic Wellbeing

While hedonia and eudaimonia both involve a degree of the fulfilment of pleasure, hedonia lends to a more relaxed and effortless state of wellbeing, while eudaimonia tends to involve effortful engagement to meet challenges toward personal growth (Waterman, 1993). Aristotle viewed eudaimonia and hedonia as conceptually different pathways to happiness, and saw eudaimonia as a life of ‘virtuous activity in accordance with reason’, the ethical path to happiness and human flourishing. Current findings support the notion that while eudaimonic and hedonic wellbeing overlap in some ways, they are two distinct constructs (Reich et al., 2003; Riggle et al., 2008; Ryff & Keyes, 1995). Eudaimonia and hedonia were correlated within the sample but demonstrated different patterns of influence. Lower depression was correlated with greater eudaimonia, but there was no correlation between hedonia and depression. Furthermore, eudaimonia, but not hedonia, played a moderating role in wellbeing such that the relationship between isolation and depression was reduced with increased eudaimonia. This suggests that greater levels of eudaimonic activity buffered the impact of isolation-related minority stress on depression.

Eudaimonic wellbeing may be considered to describe an avenue for achieving personal growth through hardship, enhancing wellbeing in a manner distinct from both reducing psychopathology or enhancing hedonic wellbeing (Aristotle, 1985; Frankl, 2006; Ryff & Keyes, 1995). Eudaimonic wellbeing may be enacted through self-realisation, functioning optimally, and engagement in meaningful activity (Huta, 2015; Huta & Ryan, 2010; Ryan & Deci, 2001; Waterman, 1993). Waterman (1993) suggested eudaimonic wellbeing could be described as ‘personal expressiveness’, being a means of engaging in life activities that are congruent with deeply held values and are engaged in holistically. Operationalisations of eudaimonia have included psychological wellbeing (autonomy, personal growth, self-acceptance, life purpose, mastery, and positive relatedness) and self-determination (autonomy, competence, and relatedness) (Ryan & Deci, 2000), which share the proposed outcomes of psychological growth, integrity, wellbeing, vitality, and self-congruence. Eudaimonia has a proposed role in such coping abilities as emotional expression, disclosure, compartmentalisation, and emotion regulation (Ryan & Deci, 2001). Adding to this body of literature, the present findings suggest that for LGB individuals engaging in eudaimonic activity, isolation does not necessarily result in feelings of depression. Perhaps LGB individuals suffering minority stress processes of isolation may nevertheless experience pleasure and fulfilment living a purposeful and value-oriented ‘eudaimonic’ life.

Self-Esteem

This study contributes to the body of evidence that eudaimonic activity can help to reduce depression among LGB people through the mediating effects of self-esteem. Specifically, higher levels of eudaimonia were predictive of less depression through the positive role of eudaimonia in increasing self-esteem. This aligns with assertions in extant literature that psychosocial wellbeing is enhanced by self-esteem, somewhat attributable to individuals belonging to a social network that gives meaningful roles and a sense of life purpose (Kulkin, 2006; Roberts & Gotlib, 1997; Rosario, et al., 2001; Rosenberg, 1965). Further, it suggests the protective effect of self-esteem is enhanced through eudaimonic activity within the LGB population (Rosario, et al., 2001; Szymanski, 2009; Szymanski et al., 2008a). This finding may reflect how membership in a devalued social group can bolster self-esteem through collective self-esteem and group socialisation (Katz et al., 2002). This may suggest that LGB individuals who engage in eudaimonic activity are more likely to experience the benefits of higher self-esteem including reduced internalised homonegativity (Szymanski et al., 2008a), self-protective sexual practices (Rosario, et al., 2001), positive social supports, positive meaning in stressful life events, and healthy coping skills (Kulkin, 2006).

Eudaimonic activity provides a useful framework for behaviours that protect against depression as suggested by the current findings. Eudaimonic activity encompasses individuals responding to their experiences in a manner that not only benefits themselves, but also their wider social environment (Frankl, 2006; Ryff et al., 2003). Illustrating this, Levitt et al. (2016) found LGB individuals who were living openly, practicing self-acceptance, and contributing to their LGB communities held a shared sense of struggle and community responsibility that fostered hope. Giving social support to others, rather than receiving it, has been shown to reduce risk of mortality in older adults (Brown et al., 2003). Likewise, communally-oriented activity reduces perceived social burdensomeness and rejection that tends to moderate suicidal ideation in LGB adolescents (Hill & Pettit, 2012). Connectedness to LGB communities has been suggested to be a particularly important coping resource through providing access to non-stigmatizing environments, greater opportunities for positive social regard, and supporting more positive self-appraisals (Meyer, 2003). This aligns with self-determination theory that secure attachments may foster well-being largely through enabling individuals to achieve competence, autonomy, and relatedness (Ryan & Deci, 2001). Particularly poignant is that sexual minority friends have been found to provide the highest

levels of sexual orientation support to other sexual minority individuals (Doty et al., 2010). Eudaimonic activity is undoubtedly one of many ways to develop and strengthen social connectedness between LGB people through enhancing the quality of social attachment, improving psychosocial wellbeing, and enhancing self-esteem (Bowlby, 1969; Holt-Lunstad et al., 2010).

Limitations

Notwithstanding limitations already identified, other general limitations of this research are considered here regarding study design. Firstly, the cross-sectional and correlational nature of the current study limits ability to infer cause-and-effect relationships. Experimental and longitudinal research designs would enable examination of causal effects of minority stress, psychological distress and psychosocial resources such as eudaimonia. That the survey took place over the internet also presents some limitations, as online surveys are known to have limited applicability to general populations due to concerns such as difficulty of gathering response-rates (Sell, 2007). Indeed, it remains unclear how many people viewed the study advertisement, what motivated participants to respond, or how the participants differed in any systematic way from those who did not see the recruitment materials or chose not to participate (Meyer & Wilson, 2009). Furthermore, with random volunteer samples it is difficult to generalise results accurately (Binson, Blair, Huebner, & Woods, 2007). However, as internet usage within the general population has expanded, so too may the generalisability of online research results have improved. The internet may also have some benefits in collecting data from hard-to-reach populations (Epstein & Klikenberg, 2002), such as by increasing access to those who conceal their sexual orientation. Finally, the measures used were based on self-report and thus are subject to participant misunderstanding, self-presentation, or social desirability biases in responding.

Other limitations of the current study surround measurement of the concepts investigated. In measuring minority stress, concerns have been raised about whether researchers or participants are referring to the stressor or the individual's reaction to an event (Lewis, Kholodkov, & Derlega, 2012). Future research may be able to tease this out by using separate terms for minority stress to indicate this difference and causal mechanisms. A further consideration is that psychosocial wellbeing could be captured more holistically, inclusive of measures of more global positive functioning as well as hedonia and eudaimonia. Such measurements have been developed and have achieved some utility (Keyes, 2005). As

discussed earlier (see page 77) measurement of both gender and sexual orientation represented another limitation of this study. Many participants resist rigid categorisations that are expedient for researchers, with the unfortunate result that much valuable data is excluded from analyses. This resistance is particularly poignant considering discussion around gender nonconformity, an issue that will likely continue to challenge future researchers.

Finally, a conceptual limitation may arise from controversy as to whether eudaimonic wellbeing as a philosophical tradition on happiness is applicable only to Western contexts (Ryan & Deci, 2001). Indeed, Maslow's (1970) hierarchy of needs may be relevant when comparing measures of wellbeing in different sociodemographic contexts, and validation of eudaimonic wellbeing as promoting positive outcomes for individuals and communities will require cross-cultural investigation.

Implications for Theory and Practice

Implications of the current study for theory and practice are two-fold, both aiding understanding of the negative impacts of specific minority stressors for LGB people and indicating strengths that may help to mitigate these impacts. Firstly, current findings identify that gender expression, vigilance, and isolation are minority stressors most affecting psychological wellbeing among LGB people (Meyer, 2013). These findings can be used to guide interventions for LGB individuals, communities, and allies, in managing the detrimental effects of minority stress by focusing on these specific stressors (Kertzner, 2009). Secondly, positive psychology shifts clinical focus onto what is working well for people, achievements of personal growth, capitalising on strengths, conditions and processes that contribute to optimal functioning, or flourishing, of individuals, groups and institutions (Seligman & Csikszentmihalyi, 2000; Seligman et al., 2005). Accordingly, current findings identify benefits to LGB people in engaging in eudaimonic activity to mitigate psychological distress in the presence of minority stress. Interventions on for LGB people on individual, community, and societal levels should be informed by both sets of findings, addressing sources of minority stress around gender expression, vigilance, and isolation, toward an increasingly tolerant and accepting social environment.

Overcoming negative self-evaluation and nurturing positive self-evaluation are primary aims of individual development, and thus comprise central themes of affirmative interventions for LGB people (Kwon, 2013; Ryff et al., 2003). Minority stress surrounding gender expression, vigilance, and isolation are identified in the current study as most

detrimental to the psychological wellbeing of LGB people. Gender expression, vigilance, and isolation may derive from conflicting needs for authenticity and self-determination, both of which align with eudaimonia (Deci & Ryan, 2000; Levitt et al., 2016). Self-determination theory describes competence, relatedness, and autonomy as key ingredients of psychosocial wellbeing (Deci & Ryan, 2000), while the need for authenticity relates to genuine self-expression (Ryan, LaGuardia, & Rawsthorne, 2005). Findings on self-complexity have shown that authenticity in being able to express the self in ways that are genuine and congruent seem to be more important for wellbeing than simply being flexible, complex, or able to adapt (Ryan & Deci, 2000; Ryan, LaGuardia, & Rawsthorne, 2005). These findings show that self-complexity is advantageous, provided a context of self-coherence, integrity, and self-determination (Ryan et al., 2005). Given this, interventions for LGB people should promote insight to foster self-complexity, be action-oriented to promote authenticity, and provide education to support managing minority stress that may be associated with enhanced self-expression.

LGB Strengths

Sitting within a positive psychology framework, strengths-based approaches are proactive in promoting wellbeing through nurturing positive aspects of health, providing more holistic and contextual understanding of the human condition, and serving to protect against development of acute disorder (Seligman & Csikszentmihalyi, 2000). The current study found one such strength was the benefit of eudaimonic activity in buffering against depression due to isolation, via improved self-esteem. These findings suggest that socially isolated LGB individuals could experience reduced depression from interventions that bolster self-esteem through promoting eudaimonia. Furthermore, given indications that eudaimonic activity promotes engagement with the social environment, interventions supporting eudaimonia seem likely to enhance psychosocial wellbeing in many ways among LGB individuals and communities (Kashdan & McKnight, 2013; Krueger et al., 2001). Alternatively, the current findings suggest that more isolated (and depressed) LGB people could increase eudaimonic activity by joining LGB social groups to become less isolated and increase the kinds of affiliations that foster a sense of belongingness and hence self-esteem. In line with these and previous findings (Scales Rostosky et al., 2010), interventions might also involve empowering clients to provide social support to other LGB individuals, for example, through engagement in community and political activism.

Psychosocial wellbeing has been described as the fit between the individual and their social world (Durkheim, 1951; Kertzner, Meyer, Frost, & Stirratt, 2009; Meyer et al., 2011), and is indicated by the extent to which individuals feel they make valued social contributions, view society as meaningful and intelligible, experience a sense of social belonging, maintain positive attitudes toward others, and believe in the potential for society to evolve positively (Kertzner et al., 2009). LGB individuals may benefit from exploring the possibility that by changing themselves, they are altering the sociopolitical world (Russell & Bohan, 2007). Likewise, Kwon's (2013) model of psychological health among LGB populations proposed lowered reactivity to prejudice when buffered by social support, emotional openness, and future orientation. In supporting these aims, individual therapies and support groups tailored to the LGB people, and perhaps the gender non-conforming, should help to mitigate the minority stress effects around gender expression, vigilance, and isolation; helping LGB people to navigate the conflicting needs to be both self-determining and authentic. However, Meyer (2015) has cautioned practitioners that over-emphasising individual resilience in psychosocial wellbeing can lead to victim-blaming, and that LGB individuals must also tap into communities to reap the benefits of minority resilience. Meyer and Frost (2013) found LGB communities allow stigmatized individuals to regularly experience social environments in which they are not stigmatized by others and access the opportunity to reciprocate context-specific social support. For LGB people, identification with a community is an essential vehicle to benefiting from community resilience, through reciprocal affiliation and identification (Meyer & Frost, 2013).

Promoting eudaimonic activity, alongside other strengths, seems likely to benefit the wider social setting in which individuals are engaged (Riggle et al., 2008). LGB individuals have provided accounts of resilience through ways in which they care for themselves, including engaging in a wide variety of activities that support their well-being related to social connections, self-care, interests and hobbies, and professional help (Dickinson & Adams, 2014). On a community level, Scales, et al. (2010) found many participants described the importance of their involvement in 'giving back' through engagement as educators, role models and social activists. Likewise, studies have found a tendency for LGB people to increasingly engage in social roles related to commitments expressed in long-term friendships and relationships, and commitments to members of future generations including parenting, caretaking, teaching, and leading or participating in community agencies (Grossman, 2006; Kertzner et al., 2009). Later in life, LGB individuals and their communities seem to benefit

from an increased sense of social capital comprising feelings of trust, a sense of social responsibility, and reciprocal social ties (Waterman, 1993). Kwon (2013) also observed sexual minorities tend to demonstrate stress-related growth through an enhanced capacity to serve as positive role models for others and get involved in social justice and activism. Future research could empirically identify some of the suggested LGB strengths and how these may be supported in practice to benefit individuals and communities.

Community level resilience may comprise tangible resources such as role models, specialised support, and dedicated supportive spaces, while intangible resources may include re-defining social values, norms, and measures of success (Meyer, 2015). It is therefore recommended that interventions assist LGB clients to access sexual orientation-specific social support both within and outside the LGB community (Sheets & Mohr, 2009). For example, Sheets and Mohr (2009) proposed programs designed to improve attitudes toward LGB individuals, positive LGB identity development, and confidence to seek increased acceptance among friends and family. As gender expression had the strongest influence on psychological distress in this study, education around broader social acceptance of non-traditional gender identities/presentations is indicated. Given discussion around the ongoing impact of family-of-origin in early childhood for gender non-conforming individuals, family interventions could also be tailored to address the needs of gender diverse young people. The Safe Schools program currently operating within the Australian school system is therefore strongly supported by current findings (Safe Schools Coalition Australia, 2017). The Safe Coalitions Australia website states, “The Safe Schools program is a national network of organisations working with schools to create safer and more inclusive environments for same sex attracted, intersex and gender diverse, students, staff, and families”, offering tailored professional learning, guidance and consultation, and free resources to this end. Similar awareness-raising activities and society-level interventions could help to further normalise gender diversity outside families and schools.

Recommendations for Future Research

Findings of LGB strengths seem likely to further resilience on individual and community levels (Meyer, 2015). Current findings align with self-reported personal strengths that assist LGB people to cope with minority stress (Riggle et al., 2008; Scales, Rostosky, Riggle, Pascale-Hague, & McCants, 2010). Identified themes for LGB strengths include living authentically and honestly, insight into and empathy for others, forging strong

connections to others and to the larger community, engaging in social justice activism, and freedom from societal role definitions (Konik & Crawford, 2004; Riggle et al., 2008; Riggle & Rostosky, 2012; Scales Rostosky et al., 2010). Yet the extent to which current findings substantiate claims around unique LGB strengths is limited and future research could go further to clarify what strengths LGB people possess and the reasons for this. The current study operationalised strengths by conceptualising proposed LGB strengths as eudaimonia (Deci & Ryan, 2000). However, future researchers may use different concepts and measures to investigate LGB strengths, such as Virtues-In-Action Strengths Inventory (VIA-IS), which measures individual character virtues. Similarly, future researchers may investigate spirituality and religiosity, which have elsewhere been proposed as sources of strength for LGB individuals through positively integrating potentially disparate religious and sexual identities (Park et al., 1996; Rodriguez & Vaughan, 2013). Current findings also support the notion that lesbians, gay men, and bisexuals may have differing patterns of coping (Kulkin, 2006; McDavitt et al., 2008). Future research could specifically investigate these differences. One avenue may be to explore self-reported bisexual strengths as distinct from lesbians and gay men (Scales, et al., 2010).

Among themes of LGB strengths, the requirement to be cognitively flexible and adaptable is common (Riggle et al., 2008; Scales Rostosky et al., 2010). Flexibility of sexual orientation and identity is particularly evident in adolescent subcultures, where language and behaviour change rapidly (LGB Youth Sexual Orientation Measurement Work Group, 2003). LGB individuals must constantly negotiate cultural realities to foster a flexible worldview in which continua replace polarizations, ambiguity is comfortable, and differences are manageable (Moradi, Mohr, et al., 2009). Moradi, Mohr, et al. (2009) suggest this outsider perspective may foster freedom from conventional ways of seeing the world and cultivate abilities to challenge assumptions. Normative creativity among LGB individuals might be the construction of families of choice composed of partner and friend networks (Moradi, Mohr, et al., 2009). Reflecting this flexibility were challenges in the current study around categorising participants. Since resistance of categorisation forms such an integral part of identity for many LGB people, future researchers may want to employ more flexible qualitative methods to capture some of this complexity and diversity around gender and sexual orientation. As with sexual orientation, greater understanding of intersectionality of gender nonconforming minorities with sexual minorities and other minority identities is likely to be enlightening (Bieschke, Hardy, Fassinger, & Croteau, 2008). The influence of

gender expression on all aspects of psychological distress (depression, anxiety, and stress) and self-esteem brings into question whether indeed gender minority stress is the driving influence on the psychological distress of sexual minorities. This hypothesis has been posed elsewhere and would merit further investigation by comparing the impact of gender non-conformity between heterosexual and sexual minorities (Rieger & Savin-Williams, 2012). Testa, Habarth, Peta, Balsam, and Bockting (2015) developed a measure of gender minority stress that could assist researchers in furthering this line of investigation.

LGB populations are very diverse in race, ethnicity, socioeconomic status, geography, gender, and sexual orientation, factors which all intersect and interact, especially within the realms of parenting and families (Gates, 2012). Evidence suggests that intersecting minority identities may be understood as complex patterns of influence rather than a mere summation of separate minority identities (Meyer, 2010b). While beyond the scope of this study, intersection of sexual minority identity with other minority identities has been broadly identified as an area in need of research and has begun to be tackled by researchers (Meyer & Frost, 2013; Meyer & Ouellett, 2009). Parent, DeBlaere, and Moradi (2013) provide an overview of definitions and conceptualizations of intersectionality, discussing the various approaches to conceptualize and assess gender, LGB sexual orientation, and racial/ethnic identities. Researcher may want to examine how these conceptualizations and assessments translate into analyses of intersectionality, and discuss additional approaches and considerations intended to advance intersectionality research.

General Conclusion

This study contributes to a body of literature on minority stress theory regarding sexual minorities, which asserts that people who identify as LGB suffer a variety of stressors associated with belonging to a sexual minority. More specifically, this study found that LGB people tend to suffer psychopathology in the form of depression, anxiety, and stress, and lowered self-esteem, in association with certain sexual minority stress processes. Specifically, findings suggested that among LGB people, psychopathology in general is linked with gender expression concerns; that depression is linked with isolation; that anxiety and stress is linked with vigilance; and that self-esteem is linked with gender expression and isolation.

As gender expression concerns emerged as the strongest predictor of psychological distress, gender nonconformity is proposed as a possible explanation for the destructive impact of minority stress on psychological distress and wellbeing among LGB people and

may be a plausible way to make sense of group differences found in this study. Further, that gender expression, isolation, and vigilance were correlated within the study sample may suggest gender nonconformity as a major underlying cause of minority stress for LGB people. Furthermore, it appeared that males and females experience stress relating to their sexual orientation differently in patterns that may be partially understood in terms of different experiences of gender nonconforming. It may be concluded that since minority stress surrounding gender expression was associated with more depression, anxiety, stress, and lower self-esteem, this is a pervasive source of stress that is detrimental to the psychological wellbeing for LGB people.

Positive psychology holds that although people face challenges to their psychological health and wellbeing, they have the capacity to effectively learn and grow from such challenges. This study makes some progress in addressing whether sexual minority stress may denote conditions in which LGB people tend to develop personal strengths. Support for this notion may be observed in the decreased psychopathology and increased psychological wellbeing as a function of age among the study sample. Findings regarding the positive role of eudaimonic activity indicate that balancing the desire to be authentic in self-expression and to maintain a sense of social belonging may be key to resilience among LGB people. How this may be achieved, however, is less clear, and warrants further research. This study goes some way to supporting previous self-identified strengths of LGB people. It has been asserted that these strengths are often community-building, pro-social, and creative in nature. Of two theoretical sources of happiness, eudaimonia, but not hedonia, fits with both previous literature and current findings of a means of bolstering wellbeing. Moreover, self-esteem appears to be the pathway by which eudaimonic activity reduces depression.

Despite limitations outlined above, the present findings have implications for practical applications. Namely, there is evidence to suggest that encouragement by clinicians of eudaimonic activity among LGB clients may boost self-esteem and reduce associated symptoms of depression, even in the presence of isolation related to sexual minority stress. Implications for practice centre around promoting wellbeing through attending to strengths often associated with the LGB population. These strengths include self-determination and community involvement, for which the concept of eudaimonic activity can provide a template. Diversity within LGB populations, intersecting minority identities, and the role of gender nonconformity are important considerations for practitioners seeking to assist LGB

clients. Future research will continue to shed light on this important area of need and promote the positive psychological wellbeing of LGB people in our society.

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CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:

We would like to invite you to be a part of a study into how minority stress effects lesbian, gay, and bisexual identity and engagement in various activity. Participation requires taking a 40 minute online survey, comprised of measures of minority stress, sexual minority identity, and activity. Potential risk involved with this research is minor, although it is considered that responding to questions about lesbian, gay, and bisexual identity may require some reflection on experiences that are likely to have been emotionally negative, unpleasant, or damaging. If you feel that this applies to you please consider whether you wish to participate in this research.

CERTIFICATION BY SUBJECT

I, "[Click here & type participant's name]"
of "[Click here & type participant's suburb]"

certify that I am at least 18 years old* and that I am voluntarily giving my consent to participate in the study: "Minority Stress, Sexual Minorities, and Psychological Wellbeing: Implications for positive psychology", being conducted at Victoria University by:

Dr Warwick Hosking

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by:

Ms Jessica Domm

and that I freely consent to participation involving the below mentioned procedures:

- Online survey

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:

Date:

Any queries about your participation in this project may be directed to the researcher

Warwick Hosking
61 3 9919 2620

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

[*please note: Where the participant/s are aged under 18, separate parental consent is required; where the participant/s are unable to answer for themselves due to mental illness or disability, parental or guardian consent may be required.]

Demographic questions

1. What is your age?
2. How do you describe you gender?
 - Male
 - Female
 - Transgender male
 - Transgender female
 - Other: describe
3. How do you describe you sexual orientation?
 - Lesbian
 - Gay man
 - Bisexual woman
 - Bisexual man
 - Other: describe
4. In which country were you born?
5. How would you describe your racial or ethnic background?
6. Where do you currently reside (city/state/country)
7. Which of the following best describes the area in which you live?
 - Capital city/inner suburban
 - Outer suburban
 - Regional centre or town
 - Rural
8. What is the highest level of education you have completed?
 - Primary school only
 - Some secondary school
 - All of secondary school
 - Tertiary diploma/Trade certificate
 - University degree (undergraduate)
 - University degree(postgraduate)
9. What is your current employment status?
 - Working fulltime
 - Working part time
 - Working casually

- Unemployed
- Retired
- Household duties
- Student
- Volunteer
- Other (please specify)

10. Are you currently in an ongoing relationship?

- No
- Yes, with a woman
- Yes, with a man
- Yes, with a transgender woman
- Yes, with transgender man

11. If yes to the above, for how many years have you been in this relationship?

Daily Heterosexist Experiences Questionnaire (DHEQ)

The following is a list of experiences that LGBT people sometimes have. Please read each one carefully, and then respond to the following question:

*How much has this problem distressed or bothered you **during the past 12 months?***

- 0 = Did not happen/not applicable to me
- 1 = It happened, and it bothered me NOT AT ALL
- 2 = It happened, and it bothered me A LITTLE BIT
- 3 = It happened, and it bothered me MODERATELY
- 4 = It happened, and it bothered me QUITE A BIT
- 5 = It happened, and it bothered me EXTREMELY

1. Difficulty finding a partner because you are LGBT
2. Difficulty finding LGBT friends
3. Having very few people you can talk to about being LGBT
4. Watching what you say and do around heterosexual people
5. Hearing about LGBT people you know being treated unfairly
6. Hearing about LGBT people you don't know being treated unfairly
7. Hearing about hate crimes (e.g., vandalism, physical or sexual assault) that happened to LGBT people you don't know
8. Being called names such as "fag" or "dyke"
9. Hearing other people being called names such as "fag" or "dyke"
10. Hearing someone make jokes about LGBT people
11. Family members not accepting your partner as a part of the family
12. Your family avoiding talking about your LGBT identity
13. Your children being rejected by other children because you are LGBT
14. Your children being verbally harassed because you are LGBT
15. Feeling like you don't fit in with other LGBT people
16. Pretending that you have an opposite-sex partner
17. Pretending that you are heterosexual
18. Hiding your relationship from other people
19. People staring at you when you are out in public because you are LGBT
20. Worry about getting HIV/AIDS
21. Constantly having to think about "safe sex"
22. Feeling invisible in the LGBT community because of your gender expression

23. Being harassed in public because of your gender expression
24. Being harassed in bathrooms because of your gender expression
25. Being rejected by your mother for being LGBT
26. Being rejected by your father for being LGBT
27. Being rejected by a sibling or siblings because you are LGBT
28. Being rejected by other relatives because you are LGBT
29. Being verbally harassed by strangers because you are LGBT
30. Being verbally harassed by people you know because you are LGBT
31. Being treated unfairly in stores or restaurants because you are LGBT
32. People laughing at you or making jokes at your expense because you are LGBT
33. Hearing politicians say negative things about LGBT people
34. Avoiding talking about your current or past relationships when you are at work
35. Hiding part of your life from other people
36. Feeling like you don't fit into the LGBT community because of your gender expression
37. Difficulty finding clothes that you are comfortable wearing because of your gender expression
38. Being misunderstood by people because of your gender expression
39. Being treated unfairly by teachers or administrators at your children's school because you are LGBT
40. People assuming you are heterosexual because you have children
41. Being treated unfairly by parents of other children because you are LGBT
42. Difficulty finding other LGBT families for you and your children to socialize with
43. Being punched, hit, kicked, or beaten because you are LGBT
44. Being assaulted with a weapon because you are LGBT
45. Being raped or sexually assaulted because you are LGBT
46. Having objects thrown at you because you are LGBT
47. Worrying about infecting others with HIV
48. Other people assuming that you are HIV positive because you are LGBT
49. Discussing HIV status with potential partners
50. Worrying about your friends who have HIV

Hedonic and Eudaimonic Motives for Activities

During the past week, to what degree did you approach your activities with each of the following intentions, whether or not you actually achieved your aim?

	Not at all						Very much
1. Seeking relaxation?							
2. Seeking to develop a skill, learn, or gain insight into something?	1	2	3	4	5	6	7
3. Seeking to do what you believe in?	1	2	3	4	5	6	7
4. Seeking pleasure?	1	2	3	4	5	6	7
5. Seeking to pursue excellence or a personal ideal?	1	2	3	4	5	6	7
6. Seeking enjoyment?	1	2	3	4	5	6	7
7. Seeking to take it easy?	1	2	3	4	5	6	7
8. Seeking to use the best in yourself?	1	2	3	4	5	6	7
9. Seeking to contribute to others or the surrounding world?	1	2	3	4	5	6	7
10. Seeking fun?	1	2	3	4	5	6	7

Rosenberg Self Esteem Scale

Strongly Agree Agree Disagree Strongly Disagree

1. I feel I am a person of worth, at least on equal plane with others.
2. I feel that I have a number of good qualities.
3. All-in-all, I am inclined to feel I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

Depression, Anxiety and Stress Scale

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement. The rating scale is as follows:

0 Did not apply to me at all – NEVER

1 Applied to me to some degree, or some of the time - SOMETIMES

2 Applied to me to a considerable degree, or a good part of time - OFTEN

3 Applied to me very much, or most of the time - ALMOST ALWAYS

1. I found it hard to wind down
2. I was aware of dryness of my mouth
3. I couldn't seem to experience any positive feeling at all
4. I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)
5. I found it difficult to work up the initiative to do things
6. I tended to over-react to situations
7. I experienced trembling (eg, in the hands)
8. I felt that I was using a lot of nervous energy
9. I was worried about situations in which I might panic and make a fool of myself
10. I felt that I had nothing to look forward to
11. I found myself getting agitated
12. I found it difficult to relax
13. I felt down-hearted and blue
14. I was intolerant of anything that kept me from getting on with what I was doing
15. I felt I was close to panic
16. I was unable to become enthusiastic about anything
17. I felt I wasn't worth much as a person
18. I felt that I was rather touchy
19. I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)
20. I felt scared without any good reason
21. I felt that life was meaningless

Appendix B – SPSS PROCESS Output for Moderation Analyses

Run MATRISX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
 Y = Depressi
 X = Vigilanc
 M = Eudaimon

Sample size
 156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4592	.2108	23.5536	12.6180	3.0000	152.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.5219	.3953	16.4989	.0000	5.7409	7.3029
Eudaimon	-.2660	.0782	-3.4015	.0009	-.4205	-.1115
Vigilanc	.2884	.0548	5.2657	.0000	.1802	.3966
int_1	-.0178	.0103	-1.7311	.0855	-.0381	.0025

Product terms key:

int_1 Vigilanc X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0182	2.9967	1.0000	152.0000	.0855

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.3948	.0852	4.6345	.0000	.2265	.5630
.0000	.2884	.0548	5.2657	.0000	.1802	.3966
5.9774	.1820	.0793	2.2940	.0232	.0253	.3388

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
6.7435	89.1026	10.8974

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.6162	.2009	3.0679	.0026	.2194	1.0131
-17.0731	.5922	.1875	3.1577	.0019	.2217	.9627
-15.7231	.5682	.1743	3.2595	.0014	.2238	.9126
-14.3731	.5442	.1612	3.3757	.0009	.2257	.8626
-13.0231	.5201	.1482	3.5093	.0006	.2273	.8130
-11.6731	.4961	.1354	3.6637	.0003	.2286	.7636
-10.3231	.4721	.1228	3.8431	.0002	.2294	.7148
-8.9731	.4481	.1106	4.0518	.0001	.2296	.6665
-7.6231	.4240	.0988	4.2939	.0000	.2289	.6192
-6.2731	.4000	.0875	4.5700	.0000	.2271	.5730
-4.9231	.3760	.0772	4.8720	.0000	.2235	.5285
-3.5731	.3520	.0681	5.1696	.0000	.2175	.4865
-2.2231	.3279	.0608	5.3913	.0000	.2078	.4481
-.8731	.3039	.0561	5.4151	.0000	.1930	.4148
.4769	.2799	.0546	5.1230	.0000	.1720	.3878
1.8269	.2559	.0566	4.5195	.0000	.1440	.3677
3.1769	.2318	.0617	3.7558	.0002	.1099	.3538
4.5269	.2078	.0693	2.9993	.0032	.0709	.3447
5.8769	.1838	.0786	2.3386	.0207	.0285	.3391
6.7435	.1684	.0852	1.9757	.0500	.0000	.3368
7.2269	.1598	.0891	1.7933	.0749	-.0163	.3358
8.5769	.1358	.1004	1.3518	.1784	-.0626	.3342

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vigilance Eudaimonia Depression.
 BEGIN DATA.

-7.1405	-5.9774	5.2930
.0000	-5.9774	8.1118
7.1405	-5.9774	10.9306
-7.1405	.0000	4.4627
.0000	.0000	6.5219
7.1405	.0000	8.5811
-7.1405	5.9774	3.6323
.0000	5.9774	4.9320
7.1405	5.9774	6.2317

END DATA.

GRAPH/SCATTERPLOT=Vigilance WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vigilanc Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Vigilanc
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3521	.1240	26.1460	5.1395	3.0000	152.0000	.0021

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4231	.4170	15.4022	.0000	5.5992	7.2470
Hedonia	-.0738	.0769	-.9601	.3385	-.2257	.0781
Vigilanc	.2389	.0656	3.6408	.0004	.1093	.3686
int_1	-.0086	.0121	-.7093	.4792	-.0325	.0153

Product terms key:

int_1 Vigilanc X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0049	.5031	1.0000	152.0000	.4792

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.2930	.0947	3.0937	.0024	.1059	.4801
.0000	.2389	.0656	3.6408	.0004	.1093	.3686
6.2941	.1848	.1061	1.7417	.0836	-.0248	.3945

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
5.3727	79.4872	20.5128
-15.0308	.6410	99.3590

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.3898	.2153	1.8106	.0722	-.0355	.8151
-16.2141	.3782	.1998	1.8932	.0602	-.0165	.7728

-15.0308	.3680	.1863	1.9757	.0500	.0000	.7360
-14.8641	.3666	.1844	1.9882	.0486	.0023	.7309
-13.5141	.3550	.1692	2.0982	.0375	.0207	.6893
-12.1641	.3434	.1542	2.2265	.0275	.0387	.6481
-10.8141	.3318	.1396	2.3770	.0187	.0560	.6076
-9.4641	.3202	.1254	2.5542	.0116	.0725	.5679
-8.1141	.3086	.1117	2.7623	.0064	.0879	.5293
-6.7641	.2970	.0989	3.0030	.0031	.1016	.4924
-5.4141	.2854	.0873	3.2702	.0013	.1130	.4578
-4.0641	.2738	.0774	3.5388	.0005	.1209	.4267
-2.7141	.2622	.0699	3.7493	.0003	.1240	.4004
-1.3641	.2506	.0658	3.8087	.0002	.1206	.3806
-.0141	.2390	.0656	3.6437	.0004	.1094	.3686
1.3359	.2274	.0694	3.2788	.0013	.0904	.3645
2.6859	.2158	.0765	2.8210	.0054	.0647	.3670
4.0359	.2042	.0862	2.3693	.0191	.0339	.3746
5.3727	.1928	.0976	1.9757	.0500	.0000	.3855
5.3859	.1926	.0977	1.9721	.0504	-.0003	.3856
6.7359	.1811	.1104	1.6399	.1031	-.0371	.3992
8.0859	.1695	.1240	1.3669	.1737	-.0755	.4144
9.4359	.1579	.1381	1.1427	.2550	-.1151	.4308

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vigilance Hedonia Depression.
 BEGIN DATA.

-7.1405	-6.2941	4.7956
.0000	-6.2941	6.8876
7.1405	-6.2941	8.9796
-7.1405	.0000	4.7171
.0000	.0000	6.4231
7.1405	.0000	8.1290
-7.1405	6.2941	4.6386
.0000	6.2941	5.9585
7.1405	6.2941	7.2784

END DATA.
 GRAPH/SCATTERPLOT=Vigilance WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vigilanc Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Harassme
M = Eudaimon

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3564	.1270	26.0548	5.5396	3.0000	152.0000	.0012

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4584	.4221	15.2993	.0000	5.6244	7.2924
Eudaimon	-.2555	.0898	-2.8450	.0051	-.4329	-.0781
Harassme	.2160	.0863	2.5014	.0134	.0454	.3866
int_1	-.0010	.0162	-.0588	.9532	-.0329	.0310

Product terms key:

int_1 Harassme X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0000	.0035	1.0000	152.0000	.9532

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.2216	.1601	1.3843	.1683	-.0947	.5380
.0000	.2160	.0863	2.5014	.0134	.0454	.3866
5.9774	.2103	.0890	2.3633	.0194	.0345	.3861

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
7.5623	89.1026	10.8974
-2.2800	34.6154	65.3846

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.2335	.3512	.6649	.5071	-.4603	.9273
-17.0731	.2322	.3299	.7039	.4826	-.4195	.8839

-15.7231	.2309	.3086	.7482	.4555	-.3789	.8407
-14.3731	.2296	.2875	.7987	.4257	-.3384	.7976
-13.0231	.2283	.2665	.8569	.3928	-.2981	.7548
-11.6731	.2271	.2456	.9246	.3566	-.2581	.7122
-10.3231	.2258	.2248	1.0041	.3169	-.2185	.6700
-8.9731	.2245	.2044	1.0986	.2737	-.1792	.6282
-7.6231	.2232	.1842	1.2121	.2274	-.1406	.5870
-6.2731	.2219	.1644	1.3501	.1790	-.1028	.5467
-4.9231	.2206	.1452	1.5199	.1306	-.0662	.5075
-3.5731	.2194	.1268	1.7298	.0857	-.0312	.4699
-2.2800	.2181	.1104	1.9757	.0500	.0000	.4363
-2.2231	.2181	.1097	1.9876	.0487	.0013	.4349
-.8731	.2168	.0946	2.2919	.0233	.0299	.4037
.4769	.2155	.0825	2.6121	.0099	.0525	.3785
1.8269	.2142	.0750	2.8582	.0049	.0661	.3623
3.1769	.2129	.0733	2.9034	.0042	.0680	.3579
4.5269	.2117	.0781	2.7119	.0075	.0575	.3659
5.8769	.2104	.0881	2.3889	.0181	.0364	.3844
7.2269	.2091	.1018	2.0533	.0418	.0079	.4103
7.5623	.2088	.1057	1.9757	.0500	.0000	.4176
8.5769	.2078	.1181	1.7604	.0803	-.0254	.4411

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Harassment_Discrimination Eudaimonia Depression.
 BEGIN DATA.

-6.2122	-5.9774	6.6086
.0000	-5.9774	7.9855
6.2122	-5.9774	9.3624
-6.2122	.0000	5.1168
.0000	.0000	6.4584
6.2122	.0000	7.8000
-6.2122	5.9774	3.6250
.0000	5.9774	4.9313
6.2122	5.9774	6.2377

END DATA.

GRAPH/SCATTERPLOT=Harassment_Discrimination WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Harassme Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Harassme
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2579	.0665	27.8621	2.7859	3.0000	152.0000	.0428

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4046	.4435	14.4421	.0000	5.5285	7.2808
Hedonia	-.0922	.0876	-1.0526	.2942	-.2652	.0808
Harassme	.1744	.0771	2.2629	.0251	.0221	.3266
int_1	-.0132	.0176	-.7457	.4570	-.0480	.0217

Product terms key:

int_1 Harassme X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0069	.5561	1.0000	152.0000	.4570

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.2572	.1324	1.9431	.0539	-.0043	.5187
.0000	.1744	.0771	2.2629	.0251	.0221	.3266
6.2941	.0916	.1379	.6641	.5076	-.1809	.3640

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
1.1555	49.3590	50.6410
-6.0055	17.9487	82.0513

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.4054	.3160	1.2830	.2014	-.2189	1.0298
-16.2141	.3877	.2930	1.3233	.1877	-.1911	.9665

-14.8641	.3699	.2701	1.3698	.1728	-.1636	.9035
-13.5141	.3522	.2473	1.4239	.1565	-.1365	.8408
-12.1641	.3344	.2248	1.4875	.1390	-.1098	.7786
-10.8141	.3166	.2026	1.5629	.1202	-.0836	.7169
-9.4641	.2989	.1808	1.6531	.1004	-.0583	.6561
-8.1141	.2811	.1596	1.7617	.0801	-.0341	.5964
-6.7641	.2634	.1392	1.8922	.0604	-.0116	.5384
-6.0055	.2534	.1283	1.9757	.0500	.0000	.5068
-5.4141	.2456	.1201	2.0455	.0425	.0084	.4828
-4.0641	.2278	.1029	2.2135	.0284	.0245	.4312
-2.7141	.2101	.0889	2.3625	.0194	.0344	.3858
-1.3641	.1923	.0797	2.4126	.0170	.0348	.3498
-.0141	.1746	.0770	2.2656	.0249	.0223	.3268
1.1555	.1592	.0806	1.9757	.0500	.0000	.3184
1.3359	.1568	.0816	1.9225	.0564	-.0043	.3179
2.6859	.1390	.0922	1.5079	.1337	-.0431	.3212
4.0359	.1213	.1072	1.1316	.2596	-.0905	.3330
5.3859	.1035	.1249	.8287	.4086	-.1433	.3503
6.7359	.0858	.1444	.5938	.5535	-.1996	.3711
8.0859	.0680	.1651	.4120	.6809	-.2581	.3941
9.4359	.0502	.1865	.2694	.7879	-.3182	.4186

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Harassment_Discrimination Hedonia Depression.
 BEGIN DATA.

-6.2122	-6.2941	5.3872
.0000	-6.2941	6.9849
6.2122	-6.2941	8.5825
-6.2122	.0000	5.3214
.0000	.0000	6.4046
6.2122	.0000	7.4879
-6.2122	6.2941	5.2555
.0000	6.2941	5.8244
6.2122	6.2941	6.3933

END DATA.
 GRAPH/SCATTERPLOT=Harassment_Discrimination WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Harassme Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Gender_E
M = Eudaimon

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4356	.1898	24.1830	10.2009	3.0000	152.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4546	.4116	15.6831	.0000	5.6415	7.2677
Eudaimon	-.2095	.0826	-2.5376	.0122	-.3727	-.0464
Gender_E	.3156	.0772	4.0863	.0001	.1630	.4681
int_1	-.0002	.0161	-.0118	.9906	-.0320	.0316

Product terms key:

int_1 Gender_E X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0000	.0001	1.0000	152.0000	.9906

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.3167	.1242	2.5501	.0118	.0713	.5621
.0000	.3156	.0772	4.0863	.0001	.1630	.4681
5.9774	.3144	.1226	2.5642	.0113	.0722	.5567

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
-8.6786	8.9744	91.0256

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.3191	.3076	1.0374	.3012	-.2886	.9267
-17.0731	.3188	.2866	1.1125	.2677	-.2473	.8850
-15.7231	.3186	.2657	1.1990	.2324	-.2064	.8435

-14.3731	.3183	.2450	1.2993	.1958	-.1657	.8023
-13.0231	.3180	.2244	1.4170	.1585	-.1254	.7615
-11.6731	.3178	.2042	1.5565	.1217	-.0856	.7211
-10.3231	.3175	.1842	1.7236	.0868	-.0464	.6815
-8.9731	.3173	.1647	1.9260	.0560	-.0082	.6427
-8.6786	.3172	.1606	1.9757	.0500	.0000	.6344
-7.6231	.3170	.1459	2.1730	.0313	.0288	.6052
-6.2731	.3168	.1280	2.4755	.0144	.0640	.5696
-4.9231	.3165	.1114	2.8412	.0051	.0964	.5366
-3.5731	.3162	.0969	3.2634	.0014	.1248	.5077
-2.2231	.3160	.0855	3.6939	.0003	.1470	.4850
-.8731	.3157	.0787	4.0131	.0001	.1603	.4712
.4769	.3155	.0775	4.0703	.0001	.1623	.4686
1.8269	.3152	.0823	3.8310	.0002	.1527	.4778
3.1769	.3150	.0921	3.4206	.0008	.1330	.4969
4.5269	.3147	.1055	2.9828	.0033	.1063	.5232
5.8769	.3144	.1214	2.5908	.0105	.0747	.5542
7.2269	.3142	.1388	2.2631	.0250	.0399	.5885
8.5769	.3139	.1574	1.9949	.0478	.0030	.6248

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Gender_Expression Eudaimonia Depression.
 BEGIN DATA.

-6.0213	-5.9774	5.8002
.0000	-5.9774	7.7071
6.0213	-5.9774	9.6141
-6.0213	.0000	4.5545
.0000	.0000	6.4546
6.0213	.0000	8.3547
-6.0213	5.9774	3.3088
.0000	5.9774	5.2021
6.0213	5.9774	7.0954

END DATA.
 GRAPH/SCATTERPLOT=Gender_Expression WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Gender_E Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Gender_E
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3922	.1539	25.2545	6.6366	3.0000	152.0000	.0003

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4266	.4100	15.6757	.0000	5.6166	7.2365
Hedonia	-.0831	.0725	-1.1455	.2538	-.2263	.0602
Gender_E	.3204	.0758	4.2299	.0000	.1708	.4701
int_1	-.0113	.0127	-.8867	.3767	-.0365	.0139

Product terms key:

int_1 Gender_E X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0066	.7862	1.0000	152.0000	.3767

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.3916	.1188	3.2970	.0012	.1569	.6262
.0000	.3204	.0758	4.2299	.0000	.1708	.4701
6.2941	.2493	.1012	2.4632	.0149	.0493	.4493

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
7.9650	88.4615	11.5385

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.5189	.2475	2.0969	.0377	.0300	1.0079
-16.2141	.5037	.2311	2.1792	.0309	.0470	.9603
-14.8641	.4884	.2149	2.2725	.0245	.0638	.9130

-13.5141	.4732	.1989	2.3791	.0186	.0802	.8661
-12.1641	.4579	.1831	2.5015	.0134	.0963	.8196
-10.8141	.4426	.1675	2.6428	.0091	.1117	.7736
-9.4641	.4274	.1523	2.8064	.0057	.1265	.7283
-8.1141	.4121	.1376	2.9960	.0032	.1404	.6839
-6.7641	.3969	.1235	3.2142	.0016	.1529	.6408
-5.4141	.3816	.1103	3.4605	.0007	.1637	.5995
-4.0641	.3664	.0983	3.7259	.0003	.1721	.5606
-2.7141	.3511	.0881	3.9837	.0001	.1770	.5252
-1.3641	.3358	.0804	4.1787	.0000	.1771	.4946
-.0141	.3206	.0758	4.2304	.0000	.1709	.4703
1.3359	.3053	.0750	4.0734	.0001	.1572	.4534
2.6859	.2901	.0780	3.7181	.0003	.1359	.4442
4.0359	.2748	.0845	3.2508	.0014	.1078	.4418
5.3859	.2596	.0938	2.7671	.0064	.0742	.4449
6.7359	.2443	.1051	2.3248	.0214	.0367	.4519
7.9650	.2304	.1166	1.9757	.0500	.0000	.4608
8.0859	.2291	.1178	1.9442	.0537	-.0037	.4618
9.4359	.2138	.1316	1.6251	.1062	-.0461	.4737

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Gender_Expression Hedonia Depression.
 BEGIN DATA.

-6.0213	-6.2941	4.5916
.0000	-6.2941	6.9493
6.0213	-6.2941	9.3070
-6.0213	.0000	4.4971
.0000	.0000	6.4266
6.0213	.0000	8.3560
-6.0213	6.2941	4.4027
.0000	6.2941	5.9038
6.0213	6.2941	7.4050

END DATA.
 GRAPH/SCATTERPLOT=Gender_Expression WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Gender_E Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Parentin
M = Eudaimon

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2613	.0683	27.8087	2.8987	3.0000	152.0000	.0370

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4533	.4290	15.0417	.0000	5.6056	7.3009
Eudaimon	-.2326	.0862	-2.6995	.0077	-.4028	-.0624
Parentin	.0754	.1517	.4970	.6199	-.2243	.3751
int_1	-.0045	.0278	-.1635	.8703	-.0595	.0504

Product terms key:

int_1 Parentin X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0002	.0267	1.0000	152.0000	.8703

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.1026	.2240	.4579	.6477	-.3399	.5450
.0000	.0754	.1517	.4970	.6199	-.2243	.3751
5.9774	.0482	.2260	.2135	.8312	-.3982	.4947

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Parenting Eudaimonia Depression.

BEGIN DATA.

-2.3816	-5.9774	7.5992
.0000	-5.9774	7.8434
2.3816	-5.9774	8.0877
-2.3816	.0000	6.2737
.0000	.0000	6.4533
2.3816	.0000	6.6328
-2.3816	5.9774	4.9482
.0000	5.9774	5.0631
2.3816	5.9774	5.1780

END DATA.

GRAPH/SCATTERPLOT=Parenting WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Parentin Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Parentin
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1305	.0170	29.3383	.8290	3.0000	152.0000	.4798

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4392	.4610	13.9684	.0000	5.5284	7.3500
Hedonia	-.1072	.0861	-1.2446	.2152	-.2774	.0630
Parentin	.0126	.2637	.0476	.9621	-.5084	.5336
int_1	-.0063	.0298	-.2104	.8336	-.0651	.0526

Product terms key:

int_1 Parentin X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0003	.0443	1.0000	152.0000	.8336

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.0520	.1629	.3193	.7500	-.2698	.3739
.0000	.0126	.2637	.0476	.9621	-.5084	.5336
6.2941	-.0269	.4276	-.0629	.9499	-.8717	.8179

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Parenting Hedonia Depression.

BEGIN DATA.

-2.3816	-6.2941	6.9901
.0000	-6.2941	7.1140
2.3816	-6.2941	7.2379
-2.3816	.0000	6.4093
.0000	.0000	6.4392
2.3816	.0000	6.4691
-2.3816	6.2941	5.8284
.0000	6.2941	5.7644
2.3816	6.2941	5.7004

END DATA.

GRAPH/SCATTERPLOT=Parenting WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Parentin Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Victimiz
M = Eudaimon

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3103	.0963	26.9737	3.1842	3.0000	152.0000	.0256

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4833	.4702	13.7886	.0000	5.5543	7.4122
Eudaimon	-.2614	.0989	-2.6435	.0091	-.4567	-.0660
Victimiz	.4026	.4590	.8772	.3817	-.5042	1.3094
int_1	-.0137	.0917	-.1498	.8811	-.1950	.1675

Product terms key:

int_1 Victimiz X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0004	.0224	1.0000	152.0000	.8811

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.4848	.9382	.5167	.6061	-1.3688	2.3383
.0000	.4026	.4590	.8772	.3817	-.5042	1.3094
5.9774	.3205	.3777	.8485	.3975	-.4257	1.0666

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Victimization Eudaimonia Depression.

BEGIN DATA.

-2.5992	-5.9774	6.7855
.0000	-5.9774	8.0455
2.5992	-5.9774	9.3056
-2.5992	.0000	5.4368
.0000	.0000	6.4833
2.5992	.0000	7.5297
-2.5992	5.9774	4.0880
.0000	5.9774	4.9210
2.5992	5.9774	5.7539

END DATA.

GRAPH/SCATTERPLOT=Victimization WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Victimiz Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Victimiz
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1809	.0327	28.8701	.9183	3.0000	152.0000	.4336

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4476	.4461	14.4525	.0000	5.5662	7.3290
Hedonia	-.1044	.0832	-1.2554	.2112	-.2687	.0599
Victimiz	.2537	.2725	.9309	.3534	-.2847	.7922
int_1	-.0078	.0465	-.1671	.8675	-.0997	.0842

Product terms key:

int_1 Victimiz X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0004	.0279	1.0000	152.0000	.8675

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.3027	.3652	.8288	.4085	-.4188	1.0241
.0000	.2537	.2725	.9309	.3534	-.2847	.7922
6.2941	.2048	.4322	.4739	.6363	-.6490	1.0586

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Victimization Hedonia Depression.

BEGIN DATA.

-2.5992	-6.2941	6.3180
.0000	-6.2941	7.1047
2.5992	-6.2941	7.8913
-2.5992	.0000	5.7881
.0000	.0000	6.4476
2.5992	.0000	7.1071
-2.5992	6.2941	5.2583
.0000	6.2941	5.7906
2.5992	6.2941	6.3229

END DATA.

GRAPH/SCATTERPLOT=Victimization WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Victimiz Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Family_O
M = Eudaimon

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2904	.0843	27.3296	2.5787	3.0000	152.0000	.0558

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4421	.4247	15.1696	.0000	5.6031	7.2811
Eudaimon	-.2314	.0843	-2.7430	.0068	-.3980	-.0647
Family_O	.0539	.0646	.8346	.4053	-.0738	.1817
int_1	-.0145	.0138	-1.0487	.2960	-.0417	.0128

Product terms key:

int_1 Family_O X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0118	1.0998	1.0000	152.0000	.2960

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.1404	.1232	1.1400	.2561	-.1029	.3838
.0000	.0539	.0646	.8346	.4053	-.0738	.1817
5.9774	-.0325	.0824	-.3951	.6933	-.1953	.1302

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Family_Of_Origin Eudaimonia Depression.

BEGIN DATA.

-6.5690	-5.9774	6.9025
.0000	-5.9774	7.8250
6.5690	-5.9774	8.7475
-6.5690	.0000	6.0877
.0000	.0000	6.4421
6.5690	.0000	6.7965
-6.5690	5.9774	5.2730
.0000	5.9774	5.0592
6.5690	5.9774	4.8454

END DATA.

GRAPH/SCATTERPLOT=Family_Of_Origin WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Family_O Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Family_O
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2106	.0443	28.5232	1.6478	3.0000	152.0000	.1808

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.3028	.4293	14.6827	.0000	5.4547	7.1509
Hedonia	-.0809	.0784	-1.0315	.3039	-.2358	.0740
Family_O	.0313	.0592	.5286	.5978	-.0856	.1482
int_1	-.0196	.0104	-1.8829	.0616	-.0402	.0010

Product terms key:

int_1 Family_O X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0247	3.5452	1.0000	152.0000	.0616

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.1548	.0948	1.6326	.1046	-.0325	.3421
.0000	.0313	.0592	.5286	.5978	-.0856	.1482
6.2941	-.0922	.0813	-1.1338	.2587	-.2530	.0685

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Family_Of_Origin Hedonia Depression.

BEGIN DATA.

-6.5690	-6.2941	5.7952
.0000	-6.2941	6.8119
6.5690	-6.2941	7.8287
-6.5690	.0000	6.0973
.0000	.0000	6.3028
6.5690	.0000	6.5082
-6.5690	6.2941	6.3995
.0000	6.2941	5.7937
6.5690	6.2941	5.1878

END DATA.

GRAPH/SCATTERPLOT=Family_Of_Origin WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Family_O Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Vicariou
M = Eudaimon

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4390	.1927	24.0940	9.7150	3.0000	152.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.5266	.4023	16.2245	.0000	5.7318	7.3213
Eudaimon	-.2494	.0810	-3.0801	.0025	-.4094	-.0894
Vicariou	.2722	.0588	4.6294	.0000	.1561	.3884
int_1	-.0171	.0117	-1.4616	.1459	-.0403	.0060

Product terms key:

int_1 Vicariou X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0140	2.1363	1.0000	152.0000	.1459

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.3746	.0896	4.1817	.0000	.1976	.5516
.0000	.2722	.0588	4.6294	.0000	.1561	.3884
5.9774	.1699	.0933	1.8206	.0706	-.0145	.3542

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
5.5624	77.5641	22.4359

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.5878	.2214	2.6548	.0088	.1504	1.0252
-17.0731	.5647	.2062	2.7384	.0069	.1573	.9721
-15.7231	.5416	.1911	2.8340	.0052	.1640	.9191

-14.3731	.5184	.1761	2.9439	.0038	.1705	.8664
-13.0231	.4953	.1613	3.0711	.0025	.1767	.8139
-11.6731	.4722	.1467	3.2196	.0016	.1824	.7619
-10.3231	.4491	.1323	3.3939	.0009	.1876	.7105
-8.9731	.4259	.1183	3.5990	.0004	.1921	.6598
-7.6231	.4028	.1049	3.8396	.0002	.1955	.6101
-6.2731	.3797	.0922	4.1168	.0001	.1975	.5619
-4.9231	.3566	.0807	4.4202	.0000	.1972	.5159
-3.5731	.3334	.0708	4.7115	.0000	.1936	.4733
-2.2231	.3103	.0633	4.9000	.0000	.1852	.4354
-.8731	.2872	.0593	4.8452	.0000	.1701	.4043
.4769	.2641	.0593	4.4531	.0000	.1469	.3812
1.8269	.2410	.0634	3.8001	.0002	.1157	.3662
3.1769	.2178	.0709	3.0729	.0025	.0778	.3579
4.5269	.1947	.0808	2.4095	.0172	.0351	.3544
5.5624	.1770	.0896	1.9757	.0500	.0000	.3539
5.8769	.1716	.0924	1.8572	.0652	-.0109	.3541
7.2269	.1485	.1051	1.4128	.1597	-.0591	.3561
8.5769	.1253	.1185	1.0575	.2920	-.1088	.3595

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vicarious_Trauma Eudaimonia Depression.
 BEGIN DATA.

-6.4391	-5.9774	5.6050
.0000	-5.9774	8.0173
6.4391	-5.9774	10.4296
-6.4391	.0000	4.7736
.0000	.0000	6.5266
6.4391	.0000	8.2796
-6.4391	5.9774	3.9421
.0000	5.9774	5.0359
6.4391	5.9774	6.1296

END DATA.
 GRAPH/SCATTERPLOT=Vicarious_Trauma WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vicariou Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Vicariou
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3645	.1329	25.8813	6.9030	3.0000	152.0000	.0002

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4393	.4138	15.5612	.0000	5.6217	7.2568
Hedonia	-.0778	.0700	-1.1100	.2687	-.2161	.0606
Vicariou	.2465	.0602	4.0928	.0001	.1275	.3654
int_1	-.0229	.0120	-1.9120	.0578	-.0465	.0008

Product terms key:

int_1 Vicariou X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0254	3.6557	1.0000	152.0000	.0578

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.3904	.1028	3.7991	.0002	.1874	.5934
.0000	.2465	.0602	4.0928	.0001	.1275	.3654
6.2941	.1025	.0896	1.1443	.2543	-.0745	.2795

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
4.3776	70.5128	29.4872

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.6482	.2265	2.8618	.0048	.2007	1.0956
-16.2141	.6173	.2110	2.9261	.0040	.2005	1.0341
-14.8641	.5864	.1955	2.9993	.0032	.2001	.9727

-13.5141	.5555	.1802	3.0828	.0024	.1995	.9116
-12.1641	.5247	.1651	3.1787	.0018	.1986	.8508
-10.8141	.4938	.1501	3.2895	.0012	.1972	.7904
-9.4641	.4629	.1354	3.4177	.0008	.1953	.7305
-8.1141	.4320	.1212	3.5660	.0005	.1927	.6714
-6.7641	.4012	.1074	3.7355	.0003	.1890	.6133
-5.4141	.3703	.0944	3.9230	.0001	.1838	.5568
-4.0641	.3394	.0825	4.1138	.0001	.1764	.5024
-2.7141	.3085	.0723	4.2679	.0000	.1657	.4514
-1.3641	.2777	.0646	4.3014	.0000	.1501	.4052
-.0141	.2468	.0602	4.0965	.0001	.1278	.3658
1.3359	.2159	.0601	3.5921	.0004	.0972	.3347
2.6859	.1850	.0642	2.8835	.0045	.0583	.3118
4.0359	.1542	.0717	2.1494	.0332	.0125	.2959
4.3776	.1464	.0741	1.9757	.0500	.0000	.2927
5.3859	.1233	.0818	1.5071	.1339	-.0383	.2849
6.7359	.0924	.0936	.9873	.3251	-.0925	.2774
8.0859	.0615	.1066	.5776	.5644	-.1490	.2721
9.4359	.0307	.1203	.2550	.7990	-.2070	.2683

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vicarious_Trauma Hedonia Depression.
 BEGIN DATA.

-6.4391	-6.2941	4.4147
.0000	-6.2941	6.9286
6.4391	-6.2941	9.4425
-6.4391	.0000	4.8522
.0000	.0000	6.4393
6.4391	.0000	8.0263
-6.4391	6.2941	5.2897
.0000	6.2941	5.9499
6.4391	6.2941	6.6101

END DATA.
 GRAPH/SCATTERPLOT=Vicarious_Trauma WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vicariou Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Isolatio
M = Eudaimon

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5159	.2662	21.9015	16.1550	3.0000	152.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.3850	.3824	16.6968	.0000	5.6295	7.1405
Eudaimon	-.2229	.0769	-2.8993	.0043	-.3748	-.0710
Isolatio	.4469	.0740	6.0363	.0000	.3006	.5932
int_1	-.0323	.0150	-2.1536	.0328	-.0618	-.0027

Product terms key:

int_1 Isolatio X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0286	4.6381	1.0000	152.0000	.0328

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.6397	.1231	5.1970	.0000	.3965	.8829
.0000	.4469	.0740	6.0363	.0000	.3006	.5932
5.9774	.2541	.1088	2.3357	.0208	.0392	.4691

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
6.6935	89.1026	10.8974

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	1.0411	.2945	3.5356	.0005	.4593	1.6228
-17.0731	.9975	.2749	3.6284	.0004	.4544	1.5407
-15.7231	.9540	.2555	3.7339	.0003	.4492	1.4588

-14.3731	.9105	.2362	3.8545	.0002	.4438	1.3771
-13.0231	.8669	.2171	3.9935	.0001	.4380	1.2958
-11.6731	.8234	.1982	4.1548	.0001	.4318	1.2149
-10.3231	.7798	.1796	4.3431	.0000	.4251	1.1346
-8.9731	.7363	.1613	4.5642	.0000	.4176	1.0550
-7.6231	.6928	.1436	4.8237	.0000	.4090	.9765
-6.2731	.6492	.1267	5.1254	.0000	.3990	.8995
-4.9231	.6057	.1108	5.4655	.0000	.3867	.8246
-3.5731	.5621	.0966	5.8183	.0000	.3713	.7530
-2.2231	.5186	.0849	6.1094	.0000	.3509	.6863
-.8731	.4751	.0768	6.1878	.0000	.3234	.6267
.4769	.4315	.0735	5.8722	.0000	.2863	.5767
1.8269	.3880	.0757	5.1284	.0000	.2385	.5375
3.1769	.3444	.0829	4.1573	.0001	.1808	.5081
4.5269	.3009	.0939	3.2035	.0017	.1153	.4865
5.8769	.2574	.1077	2.3897	.0181	.0446	.4701
6.6935	.2310	.1169	1.9757	.0500	.0000	.4621
7.2269	.2138	.1233	1.7348	.0848	-.0297	.4573
8.5769	.1703	.1400	1.2163	.2258	-.1063	.4469

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Isolation Eudaimonia Depression.
 BEGIN DATA.

-4.9358	-5.9774	4.5601
.0000	-5.9774	7.7175
4.9358	-5.9774	10.8748
-4.9358	.0000	4.1792
.0000	.0000	6.3850
4.9358	.0000	8.5908
-4.9358	5.9774	3.7983
.0000	5.9774	5.0526
4.9358	5.9774	6.3069

END DATA.
 GRAPH/SCATTERPLOT=Isolation WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Isolatio Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = Isolatio
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4571	.2090	23.6100	12.1127	3.0000	152.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4074	.3920	16.3455	.0000	5.6329	7.1818
Hedonia	-.0677	.0701	-.9656	.3358	-.2061	.0708
Isolatio	.4753	.0802	5.9298	.0000	.3169	.6336
int_1	-.0197	.0123	-1.5977	.1122	-.0441	.0047

Product terms key:

int_1 Isolatio X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0143	2.5527	1.0000	152.0000	.1122

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.5993	.1277	4.6933	.0000	.3470	.8515
.0000	.4753	.0802	5.9298	.0000	.3169	.6336
6.2941	.3513	.0927	3.7905	.0002	.1682	.5344

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Isolation Hedonia Depression.

BEGIN DATA.

-4.9358	-6.2941	3.8753
.0000	-6.2941	6.8332
4.9358	-6.2941	9.7910
-4.9358	.0000	4.0615
.0000	.0000	6.4074
4.9358	.0000	8.7533
-4.9358	6.2941	4.2477
.0000	6.2941	5.9816
4.9358	6.2941	7.7155

END DATA.

GRAPH/SCATTERPLOT=Isolation WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Isolatio Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = HIV_AIDS
M = Eudaimon

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2842	.0808	27.4359	3.2821	3.0000	152.0000	.0226

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4439	.4421	14.5764	.0000	5.5704	7.3173
Eudaimon	-.2400	.0922	-2.6040	.0101	-.4222	-.0579
HIV_AIDS	.1398	.1125	1.2425	.2159	-.0825	.3622
int_1	.0051	.0286	.1794	.8579	-.0514	.0617

Product terms key:

int_1 HIV_AIDS X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0005	.0322	1.0000	152.0000	.8579

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.1091	.2520	.4331	.6655	-.3887	.6070
.0000	.1398	.1125	1.2425	.2159	-.0825	.3622
5.9774	.1705	.1426	1.1954	.2338	-.1113	.4523

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/HIV_AIDS Eudaimonia Depression.

BEGIN DATA.

-4.4677	-5.9774	7.3910
.0000	-5.9774	7.8787
4.4677	-5.9774	8.3663
-4.4677	.0000	5.8191
.0000	.0000	6.4439
4.4677	.0000	7.0686
-4.4677	5.9774	4.2472
.0000	5.9774	5.0090
4.4677	5.9774	5.7709

END DATA.

GRAPH/SCATTERPLOT=HIV_AIDS WITH Depression BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
HIV_AIDS Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Depressi
X = HIV_AIDS
M = Hedonia

Sample size
156

Outcome: Depressi

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1923	.0370	28.7426	1.5181	3.0000	152.0000	.2121

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.4070	.4383	14.6171	.0000	5.5410	7.2730
Hedonia	-.1061	.0843	-1.2588	.2100	-.2726	.0604
HIV_AIDS	.0910	.0910	.9996	.3191	-.0889	.2709
int_1	-.0224	.0180	-1.2445	.2152	-.0579	.0131

Product terms key:

int_1 HIV_AIDS X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0137	1.5489	1.0000	152.0000	.2152

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.2318	.1754	1.3213	.1884	-.1148	.5784
.0000	.0910	.0910	.9996	.3191	-.0889	.2709
6.2941	-.0498	.1067	-.4663	.6416	-.2607	.1611

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/HIV_AIDS Hedonia Depression.

BEGIN DATA.

-4.4677	-6.2941	6.0391
.0000	-6.2941	7.0747
4.4677	-6.2941	8.1104
-4.4677	.0000	6.0004
.0000	.0000	6.4070
4.4677	.0000	6.8136
-4.4677	6.2941	5.9618
.0000	6.2941	5.7393
4.4677	6.2941	5.5169

END DATA.

GRAPH/SCATTERPLOT=HIV_AIDS WITH Depression BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
HIV_AIDS Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Vigilanc
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3545	.1257	16.7551	5.5302	3.0000	152.0000	.0012

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9651	.3346	14.8403	.0000	4.3041	5.6261
Eudaimon	-.0936	.0628	-1.4903	.1382	-.2178	.0305
Vigilanc	.2066	.0546	3.7859	.0002	.0988	.3144
int_1	.0008	.0109	.0693	.9448	-.0208	.0223

Product terms key:

int_1 Vigilanc X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0001	.0048	1.0000	152.0000	.9448

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.2021	.0862	2.3442	.0204	.0318	.3724
.0000	.2066	.0546	3.7859	.0002	.0988	.3144
5.9774	.2111	.0839	2.5173	.0129	.0454	.3768

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
-7.7172	10.2564	89.7436

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.1927	.2098	.9184	.3598	-.2218	.6072
-17.0731	.1937	.1956	.9903	.3236	-.1927	.5801
-15.7231	.1947	.1815	1.0729	.2850	-.1639	.5533

-14.3731	.1957	.1675	1.1686	.2444	-.1352	.5267
-13.0231	.1968	.1537	1.2806	.2023	-.1068	.5003
-11.6731	.1978	.1400	1.4130	.1597	-.0788	.4743
-10.3231	.1988	.1265	1.5711	.1182	-.0512	.4488
-8.9731	.1998	.1134	1.7618	.0801	-.0243	.4239
-7.7172	.2008	.1016	1.9757	.0500	.0000	.4016
-7.6231	.2008	.1008	1.9934	.0480	.0018	.3999
-6.2731	.2019	.0887	2.2751	.0243	.0266	.3772
-4.9231	.2029	.0776	2.6131	.0099	.0495	.3563
-3.5731	.2039	.0680	3.0008	.0031	.0697	.3382
-2.2231	.2049	.0603	3.3964	.0009	.0857	.3241
-.8731	.2060	.0557	3.7001	.0003	.0960	.3159
.4769	.2070	.0547	3.7854	.0002	.0989	.3150
1.8269	.2080	.0576	3.6125	.0004	.0942	.3217
3.1769	.2090	.0638	3.2744	.0013	.0829	.3351
4.5269	.2100	.0726	2.8937	.0044	.0666	.3534
5.8769	.2111	.0830	2.5415	.0120	.0470	.3751
7.2269	.2121	.0946	2.2407	.0265	.0251	.3991
8.5769	.2131	.1070	1.9911	.0483	.0017	.4245

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vigilance Eudaimonia Anxiety.
 BEGIN DATA.

-7.1405	-5.9774	4.0818
.0000	-5.9774	5.5248
7.1405	-5.9774	6.9679
-7.1405	.0000	3.4898
.0000	.0000	4.9651
7.1405	.0000	6.4404
-7.1405	5.9774	2.8978
.0000	5.9774	4.4054
7.1405	5.9774	5.9130

END DATA.
 GRAPH/SCATTERPLOT=Vigilance WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vigilanc Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Vigilanc
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3340	.1116	17.0250	4.5693	3.0000	152.0000	.0043

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9725	.3376	14.7289	.0000	4.3055	5.6395
Hedonia	.0320	.0606	.5289	.5977	-.0876	.1517
Vigilanc	.2036	.0560	3.6383	.0004	.0931	.3142
int_1	.0012	.0094	.1289	.8976	-.0173	.0198

Product terms key:

int_1 Vigilanc X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0002	.0166	1.0000	152.0000	.8976

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.1960	.0742	2.6407	.0091	.0494	.3427
.0000	.2036	.0560	3.6383	.0004	.0931	.3142
6.2941	.2113	.0880	2.4001	.0176	.0374	.3851

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
8.9451	91.6667	8.3333
-9.5299	8.9744	91.0256

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.1824	.1650	1.1050	.2709	-.1437	.5084
-16.2141	.1840	.1531	1.2015	.2314	-.1186	.4865

-14.8641	.1856	.1414	1.3130	.1912	-.0937	.4650
-13.5141	.1873	.1298	1.4428	.1511	-.0692	.4437
-12.1641	.1889	.1184	1.5949	.1128	-.0451	.4229
-10.8141	.1905	.1074	1.7744	.0780	-.0216	.4027
-9.5299	.1921	.0972	1.9757	.0500	.0000	.3842
-9.4641	.1922	.0967	1.9869	.0487	.0011	.3833
-8.1141	.1938	.0866	2.2378	.0267	.0227	.3649
-6.7641	.1954	.0773	2.5299	.0124	.0428	.3481
-5.4141	.1971	.0690	2.8574	.0049	.0608	.3333
-4.0641	.1987	.0622	3.1952	.0017	.0758	.3216
-2.7141	.2003	.0574	3.4875	.0006	.0868	.3138
-1.3641	.2020	.0553	3.6548	.0004	.0928	.3112
-.0141	.2036	.0559	3.6395	.0004	.0931	.3141
1.3359	.2052	.0594	3.4559	.0007	.0879	.3226
2.6859	.2069	.0652	3.1748	.0018	.0781	.3356
4.0359	.2085	.0727	2.8677	.0047	.0649	.3522
5.3859	.2102	.0815	2.5772	.0109	.0490	.3713
6.7359	.2118	.0913	2.3200	.0217	.0314	.3921
8.0859	.2134	.1017	2.0989	.0375	.0125	.4143
8.9451	.2145	.1086	1.9757	.0500	.0000	.4289
9.4359	.2151	.1125	1.9108	.0579	-.0073	.4374

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vigilance Hedonia Anxiety.
 BEGIN DATA.

-7.1405	-6.2941	3.3713
.0000	-6.2941	4.7709
7.1405	-6.2941	6.1705
-7.1405	.0000	3.5184
.0000	.0000	4.9725
7.1405	.0000	6.4265
-7.1405	6.2941	3.6656
.0000	6.2941	5.1741
7.1405	6.2941	6.6825

END DATA.
 GRAPH/SCATTERPLOT=Vigilance WITH Anxiety BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vigilanc Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Harassme
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3147	.0990	17.2654	4.7721	3.0000	152.0000	.0033

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9026	.3333	14.7099	.0000	4.2441	5.5610
Eudaimon	-.0857	.0629	-1.3630	.1749	-.2099	.0385
Harassme	.1477	.0654	2.2603	.0252	.0186	.2768
int_1	.0189	.0110	1.7184	.0878	-.0028	.0406

Product terms key:

int_1 Harassme X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0208	2.9529	1.0000	152.0000	.0878

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.0349	.1034	.3373	.7364	-.1693	.2391
.0000	.1477	.0654	2.2603	.0252	.0186	.2768
5.9774	.2606	.0805	3.2355	.0015	.1015	.4197

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
-.7322	41.0256	58.9744

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	-.2001	.2274	-.8800	.3802	-.6494	.2491
-17.0731	-.1746	.2132	-.8191	.4140	-.5958	.2466
-15.7231	-.1491	.1991	-.7491	.4549	-.5425	.2442

-14.3731	-.1236	.1851	-.6681	.5051	-.4893	.2420
-13.0231	-.0982	.1712	-.5733	.5673	-.4364	.2401
-11.6731	-.0727	.1575	-.4613	.6452	-.3839	.2386
-10.3231	-.0472	.1441	-.3275	.7437	-.3318	.2375
-8.9731	-.0217	.1309	-.1657	.8686	-.2804	.2370
-7.6231	.0038	.1182	.0321	.9745	-.2297	.2372
-6.2731	.0293	.1059	.2764	.7826	-.1800	.2386
-4.9231	.0548	.0945	.5797	.5630	-.1319	.2414
-3.5731	.0803	.0841	.9547	.3412	-.0858	.2463
-2.2231	.1057	.0752	1.4070	.1615	-.0427	.2542
-.8731	.1312	.0683	1.9205	.0567	-.0038	.2662
-.7322	.1339	.0678	1.9757	.0500	.0000	.2678
.4769	.1567	.0643	2.4383	.0159	.0297	.2837
1.8269	.1822	.0635	2.8693	.0047	.0567	.3077
3.1769	.2077	.0661	3.1403	.0020	.0770	.3384
4.5269	.2332	.0718	3.2475	.0014	.0913	.3750
5.8769	.2587	.0799	3.2391	.0015	.1009	.4164
7.2269	.2842	.0897	3.1693	.0018	.1070	.4613
8.5769	.3096	.1007	3.0749	.0025	.1107	.5086

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Harassment_Discrimination Eudaimonia Anxiety.
 BEGIN DATA.

-6.2122	-5.9774	5.1983
.0000	-5.9774	5.4149
6.2122	-5.9774	5.6314
-6.2122	.0000	3.9849
.0000	.0000	4.9026
6.2122	.0000	5.8202
-6.2122	5.9774	2.7716
.0000	5.9774	4.3902
6.2122	5.9774	6.0089

END DATA.
 GRAPH/SCATTERPLOT=Harassment_Discrimination WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Harassme Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Harassme
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2622	.0687	17.8462	2.3930	3.0000	152.0000	.0707

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9969	.3575	13.9754	.0000	4.2905	5.7033
Hedonia	.0320	.0683	.4688	.6399	-.1029	.1669
Harassme	.1827	.0684	2.6730	.0083	.0477	.3178
int_1	.0075	.0137	.5509	.5825	-.0195	.0346

Product terms key:

int_1 Harassme X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0036	.3035	1.0000	152.0000	.5825

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.1353	.1015	1.3329	.1846	-.0652	.3357
.0000	.1827	.0684	2.6730	.0083	.0477	.3178
6.2941	.2302	.1179	1.9527	.0527	-.0027	.4631

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
6.1076	82.0513	17.9487
-3.6764	26.2821	73.7179

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.0503	.2397	.2096	.8342	-.4234	.5239
-16.2141	.0604	.2221	.2722	.7859	-.3783	.4991

-14.8641	.0706	.2045	.3453	.7304	-.3335	.4747
-13.5141	.0808	.1872	.4317	.6666	-.2890	.4506
-12.1641	.0910	.1701	.5350	.5935	-.2450	.4270
-10.8141	.1012	.1533	.6600	.5103	-.2017	.4040
-9.4641	.1113	.1369	.8131	.4174	-.1592	.3819
-8.1141	.1215	.1212	1.0026	.3176	-.1179	.3610
-6.7641	.1317	.1064	1.2383	.2175	-.0784	.3419
-5.4141	.1419	.0928	1.5284	.1285	-.0415	.3253
-4.0641	.1521	.0813	1.8710	.0633	-.0085	.3127
-3.6764	.1550	.0785	1.9757	.0500	.0000	.3100
-2.7141	.1623	.0726	2.2335	.0270	.0187	.3058
-1.3641	.1724	.0681	2.5338	.0123	.0380	.3069
-.0141	.1826	.0683	2.6726	.0083	.0476	.3176
1.3359	.1928	.0734	2.6263	.0095	.0478	.3378
2.6859	.2030	.0824	2.4628	.0149	.0401	.3658
4.0359	.2132	.0942	2.2621	.0251	.0270	.3993
5.3859	.2233	.1079	2.0693	.0402	.0101	.4366
6.1076	.2288	.1158	1.9757	.0500	.0000	.4576
6.7359	.2335	.1229	1.9003	.0593	-.0093	.4763
8.0859	.2437	.1387	1.7571	.0809	-.0303	.5177
9.4359	.2539	.1551	1.6369	.1037	-.0525	.5603

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

```
DATA LIST FREE/Harassment_Discrimination Hedonia Anxiety.
BEGIN DATA.
```

-6.2122	-6.2941	3.9552
.0000	-6.2941	4.7954
6.2122	-6.2941	5.6356
-6.2122	.0000	3.8618
.0000	.0000	4.9969
6.2122	.0000	6.1320
-6.2122	6.2941	3.7684
.0000	6.2941	5.1984
6.2122	6.2941	6.6284

```
END DATA.
```

```
GRAPH/SCATTERPLOT=Harassment_Discrimination WITH Anxiety BY Hedonia.
```

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Harassme Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

```
----- END MATRIX -----
```

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Gender_E
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3657	.1337	16.6004	5.8553	3.0000	152.0000	.0008

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9809	.3393	14.6817	.0000	4.3107	5.6512
Eudaimon	-.0488	.0668	-.7306	.4661	-.1808	.0832
Gender_E	.2563	.0660	3.8813	.0002	.1258	.3868
int_1	.0046	.0163	.2836	.7771	-.0276	.0369

Product terms key:

int_1 Gender_E X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0011	.0804	1.0000	152.0000	.7771

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.2287	.1102	2.0746	.0397	.0109	.4464
.0000	.2563	.0660	3.8813	.0002	.1258	.3868
5.9774	.2840	.1249	2.2738	.0244	.0372	.5307

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
7.5548	89.1026	10.8974
-6.3309	15.3846	84.6154

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.1711	.2990	.5721	.5681	-.4197	.7618
-17.0731	.1773	.2775	.6388	.5239	-.3710	.7257

-15.7231	.1836	.2562	.7165	.4748	-.3226	.6897
-14.3731	.1898	.2350	.8078	.4205	-.2744	.6540
-13.0231	.1961	.2139	.9166	.3608	-.2265	.6187
-11.6731	.2023	.1930	1.0479	.2963	-.1791	.5837
-10.3231	.2085	.1725	1.2091	.2285	-.1322	.5493
-8.9731	.2148	.1523	1.4100	.1606	-.0862	.5158
-7.6231	.2210	.1328	1.6647	.0980	-.0413	.4834
-6.3309	.2270	.1149	1.9757	.0500	.0000	.4540
-6.2731	.2273	.1141	1.9915	.0482	.0018	.4528
-4.9231	.2335	.0969	2.4098	.0172	.0421	.4250
-3.5731	.2398	.0820	2.9232	.0040	.0777	.4018
-2.2231	.2460	.0710	3.4673	.0007	.1058	.3862
-.8731	.2523	.0657	3.8419	.0002	.1225	.3820
.4769	.2585	.0675	3.8287	.0002	.1251	.3919
1.8269	.2648	.0760	3.4835	.0006	.1146	.4149
3.1769	.2710	.0892	3.0367	.0028	.0947	.4474
4.5269	.2773	.1055	2.6289	.0094	.0689	.4856
5.8769	.2835	.1235	2.2957	.0231	.0395	.5275
7.2269	.2898	.1427	2.0312	.0440	.0079	.5716
7.5548	.2913	.1474	1.9757	.0500	.0000	.5826
8.5769	.2960	.1625	1.8211	.0706	-.0251	.6172

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Gender_Expression Eudaimonia Anxiety.
 BEGIN DATA.

-6.0213	-5.9774	3.8959
.0000	-5.9774	5.2727
6.0213	-5.9774	6.6495
-6.0213	.0000	3.4376
.0000	.0000	4.9809
6.0213	.0000	6.5243
-6.0213	5.9774	2.9792
.0000	5.9774	4.6892
6.0213	5.9774	6.3991

END DATA.

GRAPH/SCATTERPLOT=Gender_Expression WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Gender_E Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Gender_E
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3612	.1304	16.6637	6.0174	3.0000	152.0000	.0007

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9759	.3335	14.9190	.0000	4.3170	5.6349
Hedonia	.0296	.0576	.5139	.6080	-.0843	.1435
Gender_E	.2608	.0636	4.1003	.0001	.1352	.3865
int_1	.0031	.0115	.2747	.7839	-.0195	.0258

Product terms key:

int_1 Gender_E X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0008	.0755	1.0000	152.0000	.7839

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.2410	.1049	2.2974	.0230	.0338	.4483
.0000	.2608	.0636	4.1003	.0001	.1352	.3865
6.2941	.2806	.0865	3.2450	.0014	.1098	.4515

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
-7.8335	13.4615	86.5385

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.2056	.2224	.9246	.3567	-.2337	.6449
-16.2141	.2098	.2076	1.0109	.3137	-.2002	.6199
-14.8641	.2141	.1929	1.1100	.2688	-.1670	.5951

-13.5141	.2183	.1783	1.2244	.2227	-.1340	.5706
-12.1641	.2226	.1639	1.3579	.1765	-.1013	.5464
-10.8141	.2268	.1497	1.5148	.1319	-.0690	.5226
-9.4641	.2311	.1358	1.7011	.0910	-.0373	.4994
-8.1141	.2353	.1223	1.9240	.0562	-.0063	.4769
-7.8335	.2362	.1196	1.9757	.0500	.0000	.4724
-6.7641	.2396	.1093	2.1919	.0299	.0236	.4555
-5.4141	.2438	.0970	2.5134	.0130	.0522	.4355
-4.0641	.2481	.0857	2.8929	.0044	.0786	.4175
-2.7141	.2523	.0760	3.3204	.0011	.1022	.4024
-1.3641	.2566	.0684	3.7529	.0002	.1215	.3916
-.0141	.2608	.0636	4.0976	.0001	.1351	.3865
1.3359	.2650	.0625	4.2405	.0000	.1416	.3885
2.6859	.2693	.0651	4.1354	.0001	.1406	.3980
4.0359	.2735	.0711	3.8482	.0002	.1331	.4140
5.3859	.2778	.0796	3.4879	.0006	.1204	.4351
6.7359	.2820	.0901	3.1315	.0021	.1041	.4600
8.0859	.2863	.1018	2.8129	.0056	.0852	.4874
9.4359	.2905	.1144	2.5401	.0121	.0646	.5165

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

```
DATA LIST FREE/Gender_Expression Hedonia Anxiety.
BEGIN DATA.
```

```
    -6.0213    -6.2941    3.3381
     .0000    -6.2941    4.7895
     6.0213    -6.2941    6.2408
    -6.0213     .0000    3.4053
     .0000     .0000    4.9759
     6.0213     .0000    6.5465
    -6.0213     6.2941    3.4725
     .0000     6.2941    5.1624
     6.0213     6.2941    6.8522
```

```
END DATA.
GRAPH/SCATTERPLOT=Gender_Expression WITH Anxiety BY Hedonia.
```

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Gender_E Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Parentin
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1120	.0125	18.9230	.5638	3.0000	152.0000	.6397

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9697	.3528	14.0881	.0000	4.2727	5.6666
Eudaimon	-.0738	.0671	-1.0997	.2732	-.2064	.0588
Parentin	-.0928	.1245	-.7450	.4574	-.3388	.1532
int_1	.0042	.0252	.1679	.8669	-.0456	.0540

Product terms key:

int_1 Parentin X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0002	.0282	1.0000	152.0000	.8669

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	-.1181	.2097	-.5631	.5742	-.5323	.2962
.0000	-.0928	.1245	-.7450	.4574	-.3388	.1532
5.9774	-.0675	.1801	-.3745	.7085	-.4233	.2884

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Parenting Eudaimonia Anxiety.

BEGIN DATA.

-2.3816	-5.9774	5.6920
.0000	-5.9774	5.4108
2.3816	-5.9774	5.1296
-2.3816	.0000	5.1906
.0000	.0000	4.9697
2.3816	.0000	4.7488
-2.3816	5.9774	4.6892
.0000	5.9774	4.5286
2.3816	5.9774	4.3679

END DATA.

GRAPH/SCATTERPLOT=Parenting WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Parentin Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Parentin
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0496	.0025	19.1162	.2960	3.0000	152.0000	.8283

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9731	.3622	13.7298	.0000	4.2575	5.6887
Hedonia	.0094	.0668	.1401	.8888	-.1226	.1413
Parentin	-.0721	.1908	-.3777	.7062	-.4490	.3049
int_1	.0020	.0203	.0999	.9205	-.0381	.0422

Product terms key:

int_1 Parentin X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0001	.0100	1.0000	152.0000	.9205

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	-.0848	.1135	-.7477	.4558	-.3090	.1393
.0000	-.0721	.1908	-.3777	.7062	-.4490	.3049
6.2941	-.0593	.3044	-.1947	.8459	-.6606	.5421

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Parenting Hedonia Anxiety.

BEGIN DATA.

-2.3816	-6.2941	5.1163
.0000	-6.2941	4.9142
2.3816	-6.2941	4.7122
-2.3816	.0000	5.1447
.0000	.0000	4.9731
2.3816	.0000	4.8015
-2.3816	6.2941	5.1732
.0000	6.2941	5.0320
2.3816	6.2941	4.8908

END DATA.

GRAPH/SCATTERPLOT=Parenting WITH Anxiety BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Parentin Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Victimiz
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1892	.0358	18.4777	.7104	3.0000	152.0000	.5472

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.0052	.4065	12.3129	.0000	4.2020	5.8083
Eudaimon	-.0957	.0759	-1.2610	.2092	-.2455	.0542
Victimiz	.3264	.4780	.6830	.4957	-.6179	1.2707
int_1	-.0182	.0704	-.2584	.7965	-.1572	.1209

Product terms key:

int_1 Victimiz X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0012	.0668	1.0000	152.0000	.7965

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.4351	.8567	.5079	.6122	-1.2574	2.1276
.0000	.3264	.4780	.6830	.4957	-.6179	1.2707
5.9774	.2177	.2774	.7850	.4337	-.3303	.7657

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Victimization Eudaimonia Anxiety.

BEGIN DATA.

-2.5992	-5.9774	4.4460
.0000	-5.9774	5.5769
2.5992	-5.9774	6.7079
-2.5992	.0000	4.1567
.0000	.0000	5.0052
2.5992	.0000	5.8536
-2.5992	5.9774	3.8675
.0000	5.9774	4.4334
2.5992	5.9774	4.9993

END DATA.

GRAPH/SCATTERPLOT=Victimization WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Victimiz Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Victimiz
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1460	.0213	18.7549	.2870	3.0000	152.0000	.8347

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9680	.3611	13.7594	.0000	4.2546	5.6813
Hedonia	.0206	.0686	.2997	.7648	-.1150	.1561
Victimiz	.2414	.2734	.8829	.3787	-.2988	.7815
int_1	.0000	.0552	.0003	.9997	-.1091	.1091

Product terms key:

int_1 Victimiz X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0000	.0000	1.0000	152.0000	.9997

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.2413	.4641	.5198	.6040	-.6757	1.1582
.0000	.2414	.2734	.8829	.3787	-.2988	.7815
6.2941	.2415	.4192	.5760	.5654	-.5867	1.0697

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Victimization Hedonia Anxiety.

BEGIN DATA.

-2.5992	-6.2941	4.2115
.0000	-6.2941	4.8386
2.5992	-6.2941	5.4657
-2.5992	.0000	4.3406
.0000	.0000	4.9680
2.5992	.0000	5.5953
-2.5992	6.2941	4.4697
.0000	6.2941	5.0973
2.5992	6.2941	5.7250

END DATA.

GRAPH/SCATTERPLOT=Victimization WITH Anxiety BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Victimiz Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Family_O
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1320	.0174	18.8294	.8650	3.0000	152.0000	.4607

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9652	.3532	14.0560	.0000	4.2673	5.6631
Eudaimon	-.0701	.0646	-1.0860	.2792	-.1978	.0575
Family_O	.0529	.0546	.9676	.3348	-.0551	.1608
int_1	-.0031	.0089	-.3483	.7281	-.0206	.0144

Product terms key:

int_1 Family_O X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0008	.1213	1.0000	152.0000	.7281

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.0713	.0620	1.1501	.2519	-.0512	.1938
.0000	.0529	.0546	.9676	.3348	-.0551	.1608
5.9774	.0344	.0879	.3913	.6961	-.1393	.2081

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Family_Of_Origin Eudaimonia Anxiety.

BEGIN DATA.

-6.5690	-5.9774	4.9161
.0000	-5.9774	5.3845
6.5690	-5.9774	5.8529
-6.5690	.0000	4.6180
.0000	.0000	4.9652
6.5690	.0000	5.3124
-6.5690	5.9774	4.3198
.0000	5.9774	4.5459
6.5690	5.9774	4.7719

END DATA.

GRAPH/SCATTERPLOT=Family_Of_Origin WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Family_O Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Family_O
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1089	.0119	18.9363	.6712	3.0000	152.0000	.5710

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9237	.3589	13.7178	.0000	4.2145	5.6328
Hedonia	.0323	.0646	.4996	.6181	-.0954	.1600
Family_O	.0559	.0554	1.0084	.3149	-.0536	.1654
int_1	-.0057	.0088	-.6460	.5192	-.0231	.0117

Product terms key:

int_1 Family_O X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0033	.4173	1.0000	152.0000	.5192

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.0918	.0680	1.3494	.1792	-.0426	.2262
.0000	.0559	.0554	1.0084	.3149	-.0536	.1654
6.2941	.0200	.0877	.2279	.8200	-.1533	.1932

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Family_Of_Origin Hedonia Anxiety.

BEGIN DATA.

-6.5690	-6.2941	4.1175
.0000	-6.2941	4.7204
6.5690	-6.2941	5.3233
-6.5690	.0000	4.5566
.0000	.0000	4.9237
6.5690	.0000	5.2908
-6.5690	6.2941	4.9957
.0000	6.2941	5.1270
6.5690	6.2941	5.2582

END DATA.

GRAPH/SCATTERPLOT=Family_Of_Origin WITH Anxiety BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Family_O Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Vicariou
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2851	.0813	17.6057	5.2055	3.0000	152.0000	.0019

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9426	.3392	14.5691	.0000	4.2723	5.6128
Eudaimon	-.0992	.0602	-1.6460	.1018	-.2182	.0199
Vicariou	.1812	.0511	3.5446	.0005	.0802	.2821
int_1	.0061	.0091	.6691	.5044	-.0119	.0241

Product terms key:

int_1 Vicariou X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0028	.4477	1.0000	152.0000	.5044

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.1448	.0702	2.0637	.0407	.0062	.2834
.0000	.1812	.0511	3.5446	.0005	.0802	.2821
5.9774	.2176	.0789	2.7588	.0065	.0618	.3734

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
-6.3078	15.3846	84.6154

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.0690	.1694	.4073	.6844	-.2658	.4038
-17.0731	.0772	.1578	.4895	.6252	-.2345	.3889
-15.7231	.0854	.1462	.5845	.5598	-.2034	.3743

-14.3731	.0937	.1347	.6951	.4880	-.1725	.3599
-13.0231	.1019	.1234	.8253	.4105	-.1420	.3458
-11.6731	.1101	.1124	.9799	.3287	-.1119	.3321
-10.3231	.1183	.1016	1.1650	.2458	-.0823	.3190
-8.9731	.1265	.0911	1.3886	.1670	-.0535	.3066
-7.6231	.1348	.0812	1.6593	.0991	-.0257	.2952
-6.3078	.1428	.0723	1.9757	.0500	.0000	.2855
-6.2731	.1430	.0720	1.9848	.0490	.0007	.2853
-4.9231	.1512	.0639	2.3658	.0193	.0249	.2775
-3.5731	.1594	.0573	2.7829	.0061	.0462	.2726
-2.2231	.1676	.0527	3.1793	.0018	.0635	.2718
-.8731	.1759	.0508	3.4617	.0007	.0755	.2762
.4769	.1841	.0518	3.5538	.0005	.0817	.2864
1.8269	.1923	.0556	3.4610	.0007	.0825	.3021
3.1769	.2005	.0616	3.2559	.0014	.0788	.3222
4.5269	.2087	.0693	3.0127	.0030	.0718	.3456
5.8769	.2169	.0782	2.7756	.0062	.0625	.3714
7.2269	.2252	.0879	2.5626	.0114	.0516	.3988
8.5769	.2334	.0981	2.3779	.0187	.0395	.4273

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vicarious_Trauma Eudaimonia Anxiety.
 BEGIN DATA.

-6.4391	-5.9774	4.6031
.0000	-5.9774	5.5353
6.4391	-5.9774	6.4676
-6.4391	.0000	3.7760
.0000	.0000	4.9426
6.4391	.0000	6.1091
-6.4391	5.9774	2.9489
.0000	5.9774	4.3498
6.4391	5.9774	5.7507

END DATA.
 GRAPH/SCATTERPLOT=Vicarious_Trauma WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vicariou Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Vicariou
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2545	.0648	17.9224	3.3600	3.0000	152.0000	.0204

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9646	.3452	14.3833	.0000	4.2827	5.6466
Hedonia	.0234	.0615	.3801	.7044	-.0982	.1449
Vicariou	.1670	.0528	3.1646	.0019	.0627	.2712
int_1	-.0048	.0115	-.4161	.6779	-.0274	.0179

Product terms key:

int_1 Vicariou X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0017	.1731	1.0000	152.0000	.6779

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.1970	.0949	2.0756	.0396	.0095	.3845
.0000	.1670	.0528	3.1646	.0019	.0627	.2712
6.2941	.1369	.0835	1.6396	.1032	-.0281	.3019

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
4.9892	79.4872	20.5128
-6.9531	15.3846	84.6154

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.2508	.2149	1.1670	.2451	-.1738	.6753
-16.2141	.2443	.1999	1.2222	.2235	-.1506	.6393

-14.8641	.2379	.1850	1.2858	.2005	-.1276	.6034
-13.5141	.2314	.1702	1.3597	.1760	-.1049	.5677
-12.1641	.2250	.1556	1.4464	.1501	-.0823	.5323
-10.8141	.2186	.1411	1.5492	.1234	-.0602	.4973
-9.4641	.2121	.1268	1.6724	.0965	-.0385	.4627
-8.1141	.2057	.1129	1.8216	.0705	-.0174	.4287
-6.9531	.2001	.1013	1.9757	.0500	.0000	.4003
-6.7641	.1992	.0994	2.0034	.0469	.0028	.3957
-5.4141	.1928	.0867	2.2246	.0276	.0216	.3640
-4.0641	.1864	.0749	2.4878	.0139	.0384	.3343
-2.7141	.1799	.0647	2.7794	.0061	.0520	.3078
-1.3641	.1735	.0570	3.0436	.0028	.0609	.2861
-.0141	.1670	.0528	3.1645	.0019	.0627	.2713
1.3359	.1606	.0529	3.0334	.0028	.0560	.2652
2.6859	.1542	.0574	2.6840	.0081	.0407	.2676
4.0359	.1477	.0654	2.2595	.0253	.0186	.2769
4.9892	.1432	.0725	1.9757	.0500	.0000	.2863
5.3859	.1413	.0757	1.8666	.0639	-.0083	.2908
6.7359	.1348	.0875	1.5404	.1255	-.0381	.3078
8.0859	.1284	.1004	1.2792	.2028	-.0699	.3267
9.4359	.1219	.1139	1.0710	.2859	-.1030	.3469

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vicarious_Trauma Hedonia Anxiety.
 BEGIN DATA.

-6.4391	-6.2941	3.5490
.0000	-6.2941	4.8175
6.4391	-6.2941	6.0859
-6.4391	.0000	3.8895
.0000	.0000	4.9646
6.4391	.0000	6.0397
-6.4391	6.2941	4.2300
.0000	6.2941	5.1118
6.4391	6.2941	5.9935

END DATA.
 GRAPH/SCATTERPLOT=Vicarious_Trauma WITH Anxiety BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vicariou Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Isolatio
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2511	.0630	17.9555	3.8569	3.0000	152.0000	.0108

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9708	.3449	14.4123	.0000	4.2894	5.6522
Eudaimon	-.0587	.0660	-.8904	.3747	-.1891	.0716
Isolatio	.2033	.0640	3.1787	.0018	.0769	.3297
int_1	.0013	.0126	.1052	.9164	-.0235	.0261

Product terms key:

int_1 Isolatio X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0001	.0111	1.0000	152.0000	.9164

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.1954	.0956	2.0437	.0427	.0065	.3843
.0000	.2033	.0640	3.1787	.0018	.0769	.3297
5.9774	.2112	.1015	2.0806	.0391	.0107	.4118

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
6.5595	84.6154	15.3846
-6.3024	15.3846	84.6154

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.1790	.2362	.7576	.4498	-.2878	.6457
-17.0731	.1808	.2200	.8218	.4125	-.2538	.6154

-15.7231	.1826	.2038	.8957	.3718	-.2201	.5852
-14.3731	.1843	.1878	.9816	.3278	-.1867	.5553
-13.0231	.1861	.1719	1.0824	.2808	-.1536	.5258
-11.6731	.1879	.1563	1.2020	.2313	-.1210	.4968
-10.3231	.1897	.1410	1.3450	.1806	-.0889	.4683
-8.9731	.1915	.1261	1.5178	.1311	-.0578	.4407
-7.6231	.1933	.1119	1.7276	.0861	-.0277	.4142
-6.3024	.1950	.0987	1.9757	.0500	.0000	.3900
-6.2731	.1950	.0984	1.9817	.0493	.0006	.3895
-4.9231	.1968	.0862	2.2827	.0238	.0265	.3672
-3.5731	.1986	.0759	2.6175	.0098	.0487	.3485
-2.2231	.2004	.0682	2.9372	.0038	.0656	.3352
-.8731	.2022	.0642	3.1471	.0020	.0752	.3291
.4769	.2039	.0646	3.1570	.0019	.0763	.3316
1.8269	.2057	.0692	2.9710	.0035	.0689	.3425
3.1769	.2075	.0774	2.6810	.0082	.0546	.3604
4.5269	.2093	.0881	2.3756	.0188	.0352	.3834
5.8769	.2111	.1005	2.0996	.0374	.0125	.4097
6.5595	.2120	.1073	1.9757	.0500	.0000	.4240
7.2269	.2129	.1141	1.8650	.0641	-.0126	.4384
8.5769	.2146	.1285	1.6699	.0970	-.0393	.4686

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Isolation Eudaimonia Anxiety.
 BEGIN DATA.

-4.9358	-5.9774	4.3574
.0000	-5.9774	5.3220
4.9358	-5.9774	6.2865
-4.9358	.0000	3.9673
.0000	.0000	4.9708
4.9358	.0000	5.9744
-4.9358	5.9774	3.5772
.0000	5.9774	4.6197
4.9358	5.9774	5.6622

END DATA.
 GRAPH/SCATTERPLOT=Isolation WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Isolatio Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = Isolatio
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2429	.0590	18.0328	3.9600	3.0000	152.0000	.0094

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9573	.3440	14.4100	.0000	4.2776	5.6369
Hedonia	.0307	.0631	.4868	.6271	-.0939	.1553
Isolatio	.2136	.0631	3.3840	.0009	.0889	.3383
int_1	-.0044	.0102	-.4326	.6659	-.0246	.0157

Product terms key:

int_1 Isolatio X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0011	.1872	1.0000	152.0000	.6659

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.2413	.0885	2.7265	.0072	.0665	.4162
.0000	.2136	.0631	3.3840	.0009	.0889	.3383
6.2941	.1858	.0915	2.0317	.0439	.0051	.3665

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
6.5619	87.8205	12.1795
-11.8654	4.4872	95.5128

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.2911	.1879	1.5490	.1235	-.0802	.6623
-16.2141	.2851	.1750	1.6292	.1053	-.0606	.6308

-14.8641	.2791	.1622	1.7206	.0874	-.0414	.5997
-13.5141	.2732	.1497	1.8255	.0699	-.0225	.5689
-12.1641	.2672	.1373	1.9465	.0534	-.0040	.5385
-11.8654	.2659	.1346	1.9757	.0500	.0000	.5318
-10.8141	.2613	.1252	2.0864	.0386	.0139	.5087
-9.4641	.2553	.1136	2.2486	.0260	.0310	.4797
-8.1141	.2494	.1024	2.4354	.0160	.0471	.4517
-6.7641	.2434	.0919	2.6474	.0090	.0618	.4251
-5.4141	.2375	.0825	2.8792	.0046	.0745	.4004
-4.0641	.2315	.0744	3.1135	.0022	.0846	.3784
-2.7141	.2256	.0681	3.3131	.0012	.0911	.3601
-1.3641	.2196	.0642	3.4214	.0008	.0928	.3464
-.0141	.2137	.0631	3.3853	.0009	.0890	.3383
1.3359	.2077	.0650	3.1952	.0017	.0793	.3361
2.6859	.2017	.0696	2.8979	.0043	.0642	.3393
4.0359	.1958	.0765	2.5606	.0114	.0447	.3469
5.3859	.1898	.0850	2.2334	.0270	.0219	.3578
6.5619	.1846	.0935	1.9757	.0500	.0000	.3693
6.7359	.1839	.0948	1.9402	.0542	-.0034	.3711
8.0859	.1779	.1054	1.6874	.0936	-.0304	.3863
9.4359	.1720	.1168	1.4728	.1429	-.0587	.4027

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Isolation Hedonia Anxiety.
 BEGIN DATA.

-4.9358	-6.2941	3.5728
.0000	-6.2941	4.7641
4.9358	-6.2941	5.9553
-4.9358	.0000	3.9030
.0000	.0000	4.9573
4.9358	.0000	6.0115
-4.9358	6.2941	4.2332
.0000	6.2941	5.1505
4.9358	6.2941	6.0677

END DATA.
 GRAPH/SCATTERPLOT=Isolation WITH Anxiety BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Isolatio Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = HIV_AIDS
M = Eudaimon

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1080	.0117	18.9399	.4481	3.0000	152.0000	.7190

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9615	.3493	14.2030	.0000	4.2713	5.6516
Eudaimon	-.0677	.0657	-1.0308	.3043	-.1976	.0621
HIV_AIDS	-.0386	.0817	-.4726	.6372	-.2001	.1229
int_1	.0029	.0150	.1960	.8449	-.0268	.0327

Product terms key:

int_1 HIV_AIDS X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0003	.0384	1.0000	152.0000	.8449

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	-.0562	.1197	-.4700	.6390	-.2927	.1802
.0000	-.0386	.0817	-.4726	.6372	-.2001	.1229
5.9774	-.0210	.1233	-.1704	.8649	-.2646	.2226

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/HIV_AIDS Eudaimonia Anxiety.

BEGIN DATA.

-4.4677	-5.9774	5.6176
.0000	-5.9774	5.3663
4.4677	-5.9774	5.1151
-4.4677	.0000	5.1341
.0000	.0000	4.9615
4.4677	.0000	4.7889
-4.4677	5.9774	4.6505
.0000	5.9774	4.5566
4.4677	5.9774	4.4627

END DATA.

GRAPH/SCATTERPLOT=HIV_AIDS WITH Anxiety BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
HIV_AIDS Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Anxiety
X = HIV_AIDS
M = Hedonia

Sample size
156

Outcome: Anxiety

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0628	.0039	19.0878	.1712	3.0000	152.0000	.9157

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9559	.3588	13.8126	.0000	4.2470	5.6647
Hedonia	.0117	.0666	.1763	.8603	-.1198	.1433
HIV_AIDS	-.0477	.0840	-.5681	.5708	-.2138	.1183
int_1	-.0056	.0161	-.3481	.7282	-.0375	.0262

Product terms key:

int_1 HIV_AIDS X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0013	.1212	1.0000	152.0000	.7282

Conditional effect of X on Y at values of the moderator(s):

	Effect	se	t	p	LLCI	ULCI
Hedonia						
-6.2941	-.0124	.1360	-.0913	.9274	-.2811	.2563
.0000	-.0477	.0840	-.5681	.5708	-.2138	.1183
6.2941	-.0831	.1274	-.6520	.5154	-.3348	.1687

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/HIV_AIDS Hedonia Anxiety.
BEGIN DATA.

-4.4677	-6.2941	4.9374
.0000	-6.2941	4.8820
4.4677	-6.2941	4.8265
-4.4677	.0000	5.1692
.0000	.0000	4.9559
4.4677	.0000	4.7426
-4.4677	6.2941	5.4009
.0000	6.2941	5.0298
4.4677	6.2941	4.6586

END DATA.

GRAPH/SCATTERPLOT=HIV_AIDS WITH Anxiety BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
HIV_AIDS Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Vigilanc
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3541	.1254	17.5937	5.6448	3.0000	152.0000	.0011

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1681	.3489	23.4083	.0000	7.4787	8.8575
Eudaimon	-.0609	.0759	-.8029	.4233	-.2109	.0890
Vigilanc	.2192	.0538	4.0773	.0001	.1130	.3255
int_1	-.0004	.0117	-.0316	.9748	-.0235	.0228

Product terms key:

int_1 Vigilanc X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0000	.0010	1.0000	152.0000	.9748

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.2214	.0940	2.3556	.0198	.0357	.4072
.0000	.2192	.0538	4.0773	.0001	.1130	.3255
5.9774	.2170	.0821	2.6443	.0090	.0549	.3792

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
-7.8182	10.2564	89.7436

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.2260	.2294	.9853	.3260	-.2272	.6793
-17.0731	.2255	.2141	1.0536	.2938	-.1974	.6485
-15.7231	.2250	.1988	1.1320	.2594	-.1677	.6178

-14.3731	.2245	.1836	1.2228	.2233	-.1383	.5874
-13.0231	.2240	.1686	1.3291	.1858	-.1090	.5571
-11.6731	.2235	.1537	1.4548	.1478	-.0800	.5271
-10.3231	.2230	.1389	1.6053	.1105	-.0515	.4976
-8.9731	.2225	.1245	1.7876	.0758	-.0234	.4685
-7.8182	.2221	.1124	1.9757	.0500	.0000	.4442
-7.6231	.2220	.1104	2.0109	.0461	.0039	.4402
-6.2731	.2215	.0969	2.2869	.0236	.0302	.4129
-4.9231	.2211	.0841	2.6276	.0095	.0548	.3873
-3.5731	.2206	.0726	3.0386	.0028	.0771	.3640
-2.2231	.2201	.0629	3.4973	.0006	.0957	.3444
-.8731	.2196	.0561	3.9125	.0001	.1087	.3304
.4769	.2191	.0533	4.1116	.0001	.1138	.3243
1.8269	.2186	.0550	3.9722	.0001	.1099	.3273
3.1769	.2181	.0610	3.5773	.0005	.0976	.3385
4.5269	.2176	.0700	3.1069	.0023	.0792	.3559
5.8769	.2171	.0812	2.6738	.0083	.0567	.3774
7.2269	.2166	.0937	2.3116	.0221	.0315	.4016
8.5769	.2161	.1071	2.0180	.0453	.0045	.4276

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vigilance Eudaimonia Stress.
 BEGIN DATA.

-7.1405	-5.9774	6.9511
.0000	-5.9774	8.5323
7.1405	-5.9774	10.1135
-7.1405	.0000	6.6026
.0000	.0000	8.1681
7.1405	.0000	9.7335
-7.1405	5.9774	6.2542
.0000	5.9774	7.8038
7.1405	5.9774	9.3534

END DATA.
 GRAPH/SCATTERPLOT=Vigilance WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vigilanc Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Vigilanc
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3914	.1532	17.0341	6.4697	3.0000	152.0000	.0004

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.0975	.3414	23.7202	.0000	7.4230	8.7720
Hedonia	.0421	.0624	.6743	.5011	-.0812	.1654
Vigilanc	.2051	.0562	3.6492	.0004	.0941	.3162
int_1	-.0185	.0096	-1.9287	.0556	-.0375	.0005

Product terms key:

int_1 Vigilanc X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0341	3.7197	1.0000	152.0000	.0556

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.3218	.0765	4.2039	.0000	.1706	.4730
.0000	.2051	.0562	3.6492	.0004	.0941	.3162
6.2941	.0885	.0882	1.0030	.3175	-.0858	.2627

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
3.6006	70.5128	29.4872

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.5307	.1702	3.1175	.0022	.1944	.8670
-16.2141	.5057	.1580	3.2000	.0017	.1935	.8179
-14.8641	.4806	.1460	3.2932	.0012	.1923	.7690

-13.5141	.4556	.1340	3.3990	.0009	.1908	.7205
-12.1641	.4306	.1224	3.5190	.0006	.1888	.6724
-10.8141	.4056	.1110	3.6550	.0004	.1863	.6248
-9.4641	.3806	.1000	3.8074	.0002	.1831	.5780
-8.1141	.3555	.0895	3.9739	.0001	.1788	.5323
-6.7641	.3305	.0797	4.1460	.0001	.1730	.4880
-5.4141	.3055	.0710	4.3022	.0000	.1652	.4458
-4.0641	.2805	.0638	4.3984	.0000	.1545	.4064
-2.7141	.2554	.0585	4.3638	.0000	.1398	.3711
-1.3641	.2304	.0559	4.1227	.0001	.1200	.3408
-.0141	.2054	.0562	3.6551	.0004	.0944	.3164
1.3359	.1804	.0594	3.0365	.0028	.0630	.2977
2.6859	.1553	.0651	2.3869	.0182	.0268	.2839
3.6006	.1384	.0700	1.9757	.0500	.0000	.2768
4.0359	.1303	.0727	1.7935	.0749	-.0132	.2739
5.3859	.1053	.0816	1.2902	.1990	-.0559	.2665
6.7359	.0803	.0915	.8770	.3819	-.1006	.2611
8.0859	.0552	.1021	.5409	.5894	-.1465	.2570
9.4359	.0302	.1132	.2669	.7899	-.1935	.2539

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vigilance Hedonia Stress.
 BEGIN DATA.

-7.1405	-6.2941	5.5349
.0000	-6.2941	7.8327
7.1405	-6.2941	10.1304
-7.1405	.0000	6.6328
.0000	.0000	8.0975
7.1405	.0000	9.5622
-7.1405	6.2941	7.7307
.0000	6.2941	8.3624
7.1405	6.2941	8.9940

END DATA.
 GRAPH/SCATTERPLOT=Vigilance WITH Stress BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vigilanc Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Harassme
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2085	.0435	19.2419	1.5918	3.0000	152.0000	.1937

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1149	.3514	23.0955	.0000	7.4207	8.8091
Eudaimon	-.0464	.0750	-.6181	.5374	-.1946	.1019
Harassme	.0930	.0604	1.5399	.1257	-.0263	.2122
int_1	.0149	.0129	1.1626	.2468	-.0105	.0403

Product terms key:

int_1 Harassme X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0124	1.3517	1.0000	152.0000	.2468

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.0036	.1037	.0350	.9721	-.2013	.2086
.0000	.0930	.0604	1.5399	.1257	-.0263	.2122
5.9774	.1823	.0913	1.9969	.0476	.0019	.3626

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
6.4042	84.6154	15.3846
2.0675	57.6923	42.3077

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	-.1824	.2519	-.7239	.4703	-.6801	.3154
-17.0731	-.1622	.2351	-.6899	.4913	-.6267	.3023

-15.7231	-.1420	.2184	-.6503	.5165	-.5734	.2894
-14.3731	-.1218	.2017	-.6039	.5468	-.5204	.2767
-13.0231	-.1017	.1852	-.5488	.5839	-.4676	.2643
-11.6731	-.0815	.1689	-.4824	.6302	-.4152	.2522
-10.3231	-.0613	.1528	-.4013	.6888	-.3632	.2406
-8.9731	-.0411	.1370	-.3003	.7644	-.3118	.2295
-7.6231	-.0210	.1216	-.1724	.8634	-.2613	.2193
-6.2731	-.0008	.1069	-.0074	.9941	-.2119	.2103
-4.9231	.0194	.0930	.2085	.8352	-.1643	.2031
-3.5731	.0396	.0805	.4915	.6238	-.1195	.1986
-2.2231	.0597	.0701	.8523	.3954	-.0787	.1982
-.8731	.0799	.0628	1.2719	.2053	-.0442	.2040
.4769	.1001	.0599	1.6717	.0966	-.0182	.2184
1.8269	.1203	.0618	1.9447	.0537	-.0019	.2424
2.0675	.1239	.0627	1.9757	.0500	.0000	.2477
3.1769	.1404	.0683	2.0559	.0415	.0055	.2754
4.5269	.1606	.0782	2.0547	.0416	.0062	.3150
5.8769	.1808	.0903	2.0018	.0471	.0024	.3592
6.4042	.1887	.0955	1.9757	.0500	.0000	.3773
7.2269	.2010	.1039	1.9333	.0551	-.0044	.4063
8.5769	.2211	.1186	1.8652	.0641	-.0131	.4554

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Harassment_Discrimination Eudaimonia Stress.
 BEGIN DATA.

-6.2122	-5.9774	8.3696
.0000	-5.9774	8.3921
6.2122	-5.9774	8.4147
-6.2122	.0000	7.5375
.0000	.0000	8.1149
6.2122	.0000	8.6924
-6.2122	5.9774	6.7053
.0000	5.9774	7.8377
6.2122	5.9774	8.9701

END DATA.

GRAPH/SCATTERPLOT=Harassment_Discrimination WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Harassme Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Harassme
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1634	.0267	19.5791	1.1143	3.0000	152.0000	.3452

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1692	.3734	21.8779	.0000	7.4315	8.9069
Hedonia	.0050	.0739	.0671	.9466	-.1411	.1510
Harassme	.1175	.0655	1.7941	.0748	-.0119	.2470
int_1	.0007	.0136	.0489	.9611	-.0262	.0276

Product terms key:

int_1 Harassme X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0000	.0024	1.0000	152.0000	.9611

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.1133	.1058	1.0714	.2857	-.0957	.3224
.0000	.1175	.0655	1.7941	.0748	-.0119	.2470
6.2941	.1217	.1099	1.1075	.2698	-.0954	.3389

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Harassment_Discrimination Hedonia Stress.

BEGIN DATA.

-6.2122	-6.2941	7.4339
.0000	-6.2941	8.1380
6.2122	-6.2941	8.8421
-6.2122	.0000	7.4390
.0000	.0000	8.1692
6.2122	.0000	8.8994
-6.2122	6.2941	7.4442
.0000	6.2941	8.2004
6.2122	6.2941	8.9567

END DATA.

GRAPH/SCATTERPLOT=Harassment_Discrimination WITH Stress BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Harassme Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Gender_E
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3166	.1003	18.0993	4.4750	3.0000	152.0000	.0048

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1504	.3558	22.9060	.0000	7.4474	8.8534
Eudaimon	-.0234	.0758	-.3086	.7581	-.1730	.1263
Gender_E	.2253	.0679	3.3175	.0011	.0911	.3595
int_1	-.0058	.0162	-.3581	.7208	-.0378	.0262

Product terms key:

int_1 Gender_E X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0016	.1282	1.0000	152.0000	.7208

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.2600	.1015	2.5605	.0114	.0594	.4606
.0000	.2253	.0679	3.3175	.0011	.0911	.3595
5.9774	.1907	.1329	1.4346	.1535	-.0719	.4532

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
3.7527	70.5128	29.4872
-8.8155	8.9744	91.0256

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.3322	.2869	1.1577	.2488	-.2347	.8990

-17.0731	.3243	.2657	1.2208	.2240	-.2006	.8492
-15.7231	.3165	.2445	1.2943	.1975	-.1666	.7996
-14.3731	.3087	.2235	1.3809	.1693	-.1330	.7503
-13.0231	.3009	.2027	1.4840	.1399	-.0997	.7014
-11.6731	.2930	.1822	1.6086	.1098	-.0669	.6529
-10.3231	.2852	.1619	1.7612	.0802	-.0347	.6051
-8.9731	.2774	.1422	1.9507	.0529	-.0036	.5583
-8.8155	.2764	.1399	1.9757	.0500	.0000	.5529
-7.6231	.2695	.1232	2.1884	.0302	.0262	.5129
-6.2731	.2617	.1053	2.4864	.0140	.0538	.4697
-4.9231	.2539	.0891	2.8484	.0050	.0778	.4300
-3.5731	.2460	.0759	3.2405	.0015	.0960	.3961
-2.2231	.2382	.0674	3.5345	.0005	.1051	.3714
-.8731	.2304	.0654	3.5232	.0006	.1012	.3596
.4769	.2226	.0705	3.1582	.0019	.0833	.3618
1.8269	.2147	.0813	2.6407	.0091	.0541	.3754
3.1769	.2069	.0960	2.1553	.0327	.0172	.3965
3.7527	.2036	.1030	1.9757	.0500	.0000	.4071
4.5269	.1991	.1130	1.7614	.0802	-.0242	.4224
5.8769	.1912	.1315	1.4544	.1479	-.0685	.4510
7.2269	.1834	.1509	1.2157	.2260	-.1146	.4815
8.5769	.1756	.1708	1.0277	.3057	-.1620	.5131

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Gender_Expression Eudaimonia Stress.
 BEGIN DATA.

-6.0213	-5.9774	6.7247
.0000	-5.9774	8.2901
6.0213	-5.9774	9.8556
-6.0213	.0000	6.7937
.0000	.0000	8.1504
6.0213	.0000	9.5071
-6.0213	5.9774	6.8627
.0000	5.9774	8.0106
6.0213	5.9774	9.1586

END DATA.

GRAPH/SCATTERPLOT=Gender_Expression WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Gender_E Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Gender_E
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3286	.1080	17.9436	5.1623	3.0000	152.0000	.0020

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1380	.3471	23.4468	.0000	7.4523	8.8237
Hedonia	.0144	.0617	.2333	.8159	-.1075	.1363
Gender_E	.2261	.0633	3.5730	.0005	.1011	.3511
int_1	-.0113	.0093	-1.2221	.2235	-.0297	.0070

Product terms key:

int_1 Gender_E X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0099	1.4936	1.0000	152.0000	.2235

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.2975	.0811	3.6697	.0003	.1373	.4577
.0000	.2261	.0633	3.5730	.0005	.1011	.3511
6.2941	.1547	.0909	1.7016	.0909	-.0249	.3343

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
5.2598	79.4872	20.5128

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.4254	.1680	2.5317	.0124	.0934	.7573
-16.2141	.4100	.1565	2.6207	.0097	.1009	.7192
-14.8641	.3947	.1451	2.7208	.0073	.1081	.6813

-13.5141	.3794	.1339	2.8337	.0052	.1149	.6439
-12.1641	.3641	.1230	2.9609	.0036	.1211	.6070
-10.8141	.3488	.1124	3.1036	.0023	.1268	.5708
-9.4641	.3335	.1022	3.2619	.0014	.1315	.5354
-8.1141	.3181	.0927	3.4331	.0008	.1351	.5012
-6.7641	.3028	.0839	3.6097	.0004	.1371	.4686
-5.4141	.2875	.0762	3.7744	.0002	.1370	.4380
-4.0641	.2722	.0699	3.8960	.0001	.1342	.4102
-2.7141	.2569	.0654	3.9292	.0001	.1277	.3860
-1.3641	.2416	.0631	3.8285	.0002	.1169	.3662
-.0141	.2262	.0633	3.5764	.0005	.1013	.3512
1.3359	.2109	.0659	3.2028	.0017	.0808	.3410
2.6859	.1956	.0706	2.7702	.0063	.0561	.3351
4.0359	.1803	.0771	2.3374	.0207	.0279	.3327
5.2598	.1664	.0842	1.9757	.0500	.0000	.3328
5.3859	.1650	.0850	1.9407	.0541	-.0030	.3329
6.7359	.1497	.0939	1.5937	.1131	-.0359	.3352
8.0859	.1343	.1036	1.2973	.1965	-.0703	.3390
9.4359	.1190	.1138	1.0462	.2971	-.1057	.3438

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

```
DATA LIST FREE/Gender_Expression Hedonia Stress.
BEGIN DATA.
```

-6.0213	-6.2941	6.2561
.0000	-6.2941	8.0474
6.0213	-6.2941	9.8387
-6.0213	.0000	6.7767
.0000	.0000	8.1380
6.0213	.0000	9.4993
-6.0213	6.2941	7.2972
.0000	6.2941	8.2286
6.0213	6.2941	9.1599

```
END DATA.
```

```
GRAPH/SCATTERPLOT=Gender_Expression WITH Stress BY Hedonia.
```

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Gender_E Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

```
----- END MATRIX -----
```

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Parentin
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0920	.0085	19.9459	.5555	3.0000	152.0000	.6452

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1576	.3653	22.3291	.0000	7.4358	8.8794
Eudaimon	-.0331	.0770	-.4303	.6676	-.1853	.1190
Parentin	-.0005	.1565	-.0035	.9972	-.3097	.3086
int_1	-.0222	.0246	-.9030	.3679	-.0707	.0264

Product terms key:

int_1 Parentin X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0059	.8154	1.0000	152.0000	.3679

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.1321	.1620	.8153	.4162	-.1880	.4522
.0000	-.0005	.1565	-.0035	.9972	-.3097	.3086
5.9774	-.1332	.2567	-.5190	.6045	-.6403	.3739

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Parenting Eudaimonia Stress.

BEGIN DATA.

-2.3816	-5.9774	8.0410
.0000	-5.9774	8.3556
2.3816	-5.9774	8.6702
-2.3816	.0000	8.1589
.0000	.0000	8.1576
2.3816	.0000	8.1563
-2.3816	5.9774	8.2768
.0000	5.9774	7.9596
2.3816	5.9774	7.6423

END DATA.

GRAPH/SCATTERPLOT=Parenting WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Parentin Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Parentin
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1038	.0108	19.8997	.9329	3.0000	152.0000	.4264

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.0928	.3749	21.5842	.0000	7.3520	8.8336
Hedonia	-.0071	.0728	-.0975	.9225	-.1509	.1367
Parentin	-.1472	.2016	-.7302	.4664	-.5456	.2511
int_1	-.0291	.0221	-1.3145	.1907	-.0727	.0146

Product terms key:

int_1 Parentin X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0107	1.7279	1.0000	152.0000	.1907

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.0357	.1088	.3280	.7434	-.1793	.2506
.0000	-.1472	.2016	-.7302	.4664	-.5456	.2511
6.2941	-.3301	.3289	-1.0036	.3171	-.9800	.3197

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Parenting Hedonia Stress.

BEGIN DATA.

-2.3816	-6.2941	8.0525
.0000	-6.2941	8.1375
2.3816	-6.2941	8.2225
-2.3816	.0000	8.4435
.0000	.0000	8.0928
2.3816	.0000	7.7422
-2.3816	6.2941	8.8344
.0000	6.2941	8.0482
2.3816	6.2941	7.2619

END DATA.

GRAPH/SCATTERPLOT=Parenting WITH Stress BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Parentin Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Victimiz
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0828	.0069	19.9784	.1736	3.0000	152.0000	.9141

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1181	.3750	21.6459	.0000	7.3772	8.8591
Eudaimon	-.0314	.0806	-.3899	.6971	-.1907	.1278
Victimiz	.0036	.2880	.0125	.9901	-.5653	.5725
int_1	.0237	.0613	.3872	.6991	-.0973	.1448

Product terms key:

int_1 Victimiz X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0019	.1499	1.0000	152.0000	.6991

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	-.1382	.5915	-.2337	.8155	-1.3068	1.0303
.0000	.0036	.2880	.0125	.9901	-.5653	.5725
5.9774	.1454	.2902	.5010	.6171	-.4280	.7187

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Victimization Eudaimonia Stress.

BEGIN DATA.

-2.5992	-5.9774	8.6653
.0000	-5.9774	8.3060
2.5992	-5.9774	7.9467
-2.5992	.0000	8.1088
.0000	.0000	8.1181
2.5992	.0000	8.1274
-2.5992	5.9774	7.5524
.0000	5.9774	7.9303
2.5992	5.9774	8.3081

END DATA.

GRAPH/SCATTERPLOT=Victimization WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Victimiz Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Victimiz
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0493	.0024	20.0673	.0322	3.0000	152.0000	.9922

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1585	.3658	22.3039	.0000	7.4358	8.8812
Hedonia	-.0057	.0744	-.0772	.9386	-.1526	.1412
Victimiz	.0595	.1953	.3047	.7610	-.3263	.4453
int_1	-.0084	.0565	-.1491	.8817	-.1201	.1032

Product terms key:

int_1 Victimiz X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0007	.0222	1.0000	152.0000	.8817

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.1125	.4604	.2444	.8073	-.7971	1.0222
.0000	.0595	.1953	.3047	.7610	-.3263	.4453
6.2941	.0065	.3424	.0189	.9849	-.6701	.6830

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Victimization Hedonia Stress.

BEGIN DATA.

-2.5992	-6.2941	7.9022
.0000	-6.2941	8.1947
2.5992	-6.2941	8.4871
-2.5992	.0000	8.0039
.0000	.0000	8.1585
2.5992	.0000	8.3132
-2.5992	6.2941	8.1056
.0000	6.2941	8.1224
2.5992	6.2941	8.1392

END DATA.

GRAPH/SCATTERPLOT=Victimization WITH Stress BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Victimiz Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Family_O
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0631	.0040	20.0362	.1489	3.0000	152.0000	.9303

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1646	.3653	22.3517	.0000	7.4430	8.8863
Eudaimon	-.0370	.0769	-.4808	.6313	-.1889	.1150
Family_O	.0200	.0534	.3756	.7077	-.0854	.1255
int_1	-.0023	.0103	-.2197	.8264	-.0225	.0180

Product terms key:

int_1 Family_O X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0004	.0483	1.0000	152.0000	.8264

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.0335	.0753	.4450	.6569	-.1152	.1822
.0000	.0200	.0534	.3756	.7077	-.0854	.1255
5.9774	.0066	.0868	.0758	.9396	-.1649	.1781

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Family_Of_Origin Eudaimonia Stress.

BEGIN DATA.

-6.5690	-5.9774	8.1656
.0000	-5.9774	8.3856
6.5690	-5.9774	8.6057
-6.5690	.0000	8.0330
.0000	.0000	8.1646
6.5690	.0000	8.2963
-6.5690	5.9774	7.9004
.0000	5.9774	7.9436
6.5690	5.9774	7.9869

END DATA.

GRAPH/SCATTERPLOT=Family_Of_Origin WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
Family_O Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Family_O
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1868	.0349	19.4143	1.4854	3.0000	152.0000	.2208

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.0204	.3683	21.7751	.0000	7.2927	8.7481
Hedonia	.0166	.0678	.2452	.8066	-.1174	.1506
Family_O	.0057	.0584	.0983	.9218	-.1096	.1211
int_1	-.0188	.0092	-2.0432	.0428	-.0371	-.0006

Product terms key:

int_1 Family_O X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0338	4.1745	1.0000	152.0000	.0428

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.1243	.0734	1.6939	.0923	-.0207	.2693
.0000	.0057	.0584	.0983	.9218	-.1096	.1211
6.2941	-.1128	.0904	-1.2483	.2138	-.2914	.0657

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
-10.1138	8.9744	91.0256

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.3366	.1605	2.0977	.0376	.0196	.6536
-16.2141	.3112	.1489	2.0898	.0383	.0170	.6053
-14.8641	.2857	.1375	2.0783	.0394	.0141	.5574

-13.5141	.2603	.1263	2.0615	.0410	.0108	.5098
-12.1641	.2349	.1153	2.0369	.0434	.0071	.4627
-10.8141	.2094	.1047	2.0008	.0472	.0026	.4163
-10.1138	.1962	.0993	1.9757	.0500	.0000	.3925
-9.4641	.1840	.0945	1.9473	.0533	-.0027	.3707
-8.1141	.1586	.0849	1.8675	.0638	-.0092	.3264
-6.7641	.1332	.0762	1.7480	.0825	-.0173	.2836
-5.4141	.1077	.0686	1.5707	.1183	-.0278	.2432
-4.0641	.0823	.0626	1.3153	.1904	-.0413	.2059
-2.7141	.0569	.0586	.9702	.3335	-.0589	.1727
-1.3641	.0314	.0571	.5501	.5831	-.0815	.1443
-.0141	.0060	.0584	.1029	.9182	-.1093	.1213
1.3359	-.0194	.0621	-.3128	.7549	-.1421	.1033
2.6859	-.0449	.0679	-.6602	.5102	-.1791	.0894
4.0359	-.0703	.0754	-.9320	.3528	-.2193	.0787
5.3859	-.0957	.0841	-1.1386	.2566	-.2618	.0704
6.7359	-.1211	.0936	-1.2947	.1974	-.3060	.0637
8.0859	-.1466	.1037	-1.4133	.1596	-.3515	.0583
9.4359	-.1720	.1143	-1.5048	.1344	-.3978	.0538

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Family_Of_Origin Hedonia Stress.
 BEGIN DATA.

-6.5690	-6.2941	7.0992
.0000	-6.2941	7.9158
6.5690	-6.2941	8.7323
-6.5690	.0000	7.9827
.0000	.0000	8.0204
6.5690	.0000	8.0581
-6.5690	6.2941	8.8662
.0000	6.2941	8.1251
6.5690	6.2941	7.3840

END DATA.
 GRAPH/SCATTERPLOT=Family_Of_Origin WITH Stress BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Family_O Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Vicariou
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2156	.0465	19.1814	2.2775	3.0000	152.0000	.0819

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1575	.3569	22.8543	.0000	7.4523	8.8627
Eudaimon	-.0571	.0762	-.7490	.4550	-.2077	.0935
Vicariou	.1461	.0571	2.5601	.0114	.0334	.2589
int_1	.0022	.0117	.1875	.8515	-.0210	.0254

Product terms key:

int_1 Vicariou X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0003	.0352	1.0000	152.0000	.8515

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.1330	.0847	1.5693	.1187	-.0344	.3003
.0000	.1461	.0571	2.5601	.0114	.0334	.2589
5.9774	.1593	.0959	1.6611	.0987	-.0302	.3487

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
4.0089	70.5128	29.4872
-4.0366	23.7179	76.2821

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.1055	.2167	.4870	.6270	-.3226	.5337
-17.0731	.1085	.2015	.5387	.5909	-.2895	.5066

-15.7231	.1115	.1863	.5985	.5504	-.2566	.4796
-14.3731	.1145	.1713	.6684	.5049	-.2239	.4528
-13.0231	.1174	.1564	.7510	.4538	-.1915	.4264
-11.6731	.1204	.1417	.8496	.3969	-.1596	.4004
-10.3231	.1234	.1273	.9689	.3341	-.1282	.3750
-8.9731	.1264	.1134	1.1146	.2668	-.0976	.3503
-7.6231	.1293	.0999	1.2941	.1976	-.0681	.3268
-6.2731	.1323	.0873	1.5149	.1319	-.0402	.3049
-4.9231	.1353	.0760	1.7808	.0769	-.0148	.2854
-4.0366	.1372	.0695	1.9757	.0500	.0000	.2745
-3.5731	.1383	.0665	2.0804	.0392	.0070	.2695
-2.2231	.1412	.0597	2.3654	.0193	.0233	.2592
-.8731	.1442	.0567	2.5429	.0120	.0322	.2562
.4769	.1472	.0580	2.5353	.0122	.0325	.2619
1.8269	.1501	.0635	2.3662	.0192	.0248	.2755
3.1769	.1531	.0720	2.1262	.0351	.0108	.2954
4.0089	.1549	.0784	1.9757	.0500	.0000	.3099
4.5269	.1561	.0828	1.8862	.0612	-.0074	.3196
5.8769	.1591	.0949	1.6754	.0959	-.0285	.3466
7.2269	.1620	.1081	1.4992	.1359	-.0515	.3756
8.5769	.1650	.1219	1.3540	.1778	-.0758	.4058

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vicarious_Trauma Eudaimonia Stress.
 BEGIN DATA.

-6.4391	-5.9774	7.6426
.0000	-5.9774	8.4987
6.4391	-5.9774	9.3549
-6.4391	.0000	7.2166
.0000	.0000	8.1575
6.4391	.0000	9.0984
-6.4391	5.9774	6.7906
.0000	5.9774	7.8162
6.4391	5.9774	8.8419

END DATA.

GRAPH/SCATTERPLOT=Vicarious_Trauma WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vicariou Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Vicariou
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2584	.0668	18.7732	2.9102	3.0000	152.0000	.0365

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1535	.3528	23.1132	.0000	7.4565	8.8504
Hedonia	.0190	.0647	.2936	.7695	-.1088	.1468
Vicariou	.1333	.0562	2.3709	.0190	.0222	.2444
int_1	-.0190	.0113	-1.6788	.0953	-.0413	.0034

Product terms key:

int_1 Vicariou X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0260	2.8183	1.0000	152.0000	.0953

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.2527	.0892	2.8344	.0052	.0766	.4288
.0000	.1333	.0562	2.3709	.0190	.0222	.2444
6.2941	.0139	.0921	.1507	.8804	-.1682	.1959

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
1.0119	49.3590	50.6410

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.4665	.2045	2.2817	.0239	.0626	.8705
-16.2141	.4409	.1898	2.3226	.0215	.0659	.8160
-14.8641	.4153	.1753	2.3688	.0191	.0689	.7617

-13.5141	.3897	.1609	2.4212	.0166	.0717	.7077
-12.1641	.3641	.1467	2.4810	.0142	.0742	.6540
-10.8141	.3385	.1328	2.5491	.0118	.0761	.6008
-9.4641	.3128	.1191	2.6261	.0095	.0775	.5482
-8.1141	.2872	.1059	2.7118	.0075	.0780	.4965
-6.7641	.2616	.0933	2.8029	.0057	.0772	.4460
-5.4141	.2360	.0817	2.8896	.0044	.0746	.3974
-4.0641	.2104	.0714	2.9476	.0037	.0694	.3514
-2.7141	.1848	.0631	2.9274	.0039	.0601	.3095
-1.3641	.1592	.0578	2.7544	.0066	.0450	.2733
-.0141	.1336	.0562	2.3759	.0188	.0225	.2446
1.0119	.1141	.0578	1.9757	.0500	.0000	.2282
1.3359	.1080	.0587	1.8389	.0679	-.0080	.2239
2.6859	.0823	.0648	1.2709	.2057	-.0457	.2103
4.0359	.0567	.0736	.7709	.4420	-.0887	.2021
5.3859	.0311	.0842	.3693	.7124	-.1353	.1976
6.7359	.0055	.0962	.0572	.9544	-.1845	.1955
8.0859	-.0201	.1089	-.1846	.8538	-.2353	.1950
9.4359	-.0457	.1222	-.3741	.7089	-.2872	.1958

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Vicarious_Trauma Hedonia Stress.
 BEGIN DATA.

-6.4391	-6.2941	6.4068
.0000	-6.2941	8.0340
6.4391	-6.2941	9.6612
-6.4391	.0000	7.2952
.0000	.0000	8.1535
6.4391	.0000	9.0118
-6.4391	6.2941	8.1836
.0000	6.2941	8.2730
6.4391	6.2941	8.3624

END DATA.
 GRAPH/SCATTERPLOT=Vicarious_Trauma WITH Stress BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Vicariou Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Isolatio
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2981	.0889	18.3284	4.9328	3.0000	152.0000	.0027

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1484	.3529	23.0898	.0000	7.4512	8.8456
Eudaimon	-.0260	.0741	-.3514	.7258	-.1724	.1203
Isolatio	.2588	.0692	3.7404	.0003	.1221	.3955
int_1	-.0084	.0152	-.5508	.5826	-.0385	.0217

Product terms key:

int_1 Isolatio X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0029	.3033	1.0000	152.0000	.5826

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	.3090	.1197	2.5803	.0108	.0724	.5456
.0000	.2588	.0692	3.7404	.0003	.1221	.3955
5.9774	.2086	.1088	1.9165	.0572	-.0064	.4236

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
5.7731	84.6154	15.3846
-9.9937	8.3333	91.6667

Conditional effect of X on Y at values of the moderator (M)

Eudaimon	Effect	se	t	p	LLCI	ULCI
-18.4231	.4135	.2959	1.3976	.1643	-.1710	.9980
-17.0731	.4022	.2759	1.4577	.1470	-.1429	.9472

-15.7231	.3908	.2560	1.5266	.1289	-.1150	.8966
-14.3731	.3795	.2362	1.6063	.1103	-.0873	.8462
-13.0231	.3682	.2166	1.6994	.0913	-.0599	.7962
-11.6731	.3568	.1972	1.8091	.0724	-.0328	.7465
-10.3231	.3455	.1781	1.9400	.0542	-.0064	.6973
-9.9937	.3427	.1735	1.9757	.0500	.0000	.6854
-8.9731	.3341	.1593	2.0976	.0376	.0194	.6489
-7.6231	.3228	.1410	2.2891	.0235	.0442	.6014
-6.2731	.3115	.1235	2.5227	.0127	.0675	.5554
-4.9231	.3001	.1070	2.8051	.0057	.0887	.5115
-3.5731	.2888	.0922	3.1324	.0021	.1066	.4709
-2.2231	.2775	.0800	3.4684	.0007	.1194	.4355
-.8731	.2661	.0717	3.7097	.0003	.1244	.4079
.4769	.2548	.0688	3.7006	.0003	.1188	.3908
1.8269	.2434	.0720	3.3819	.0009	.1012	.3857
3.1769	.2321	.0804	2.8855	.0045	.0732	.3910
4.5269	.2208	.0928	2.3797	.0186	.0375	.4041
5.7731	.2103	.1064	1.9757	.0500	.0000	.4206
5.8769	.2094	.1077	1.9454	.0536	-.0033	.4221
7.2269	.1981	.1242	1.5952	.1127	-.0473	.4435
8.5769	.1868	.1418	1.3173	.1897	-.0933	.4669

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Isolation Eudaimonia Stress.
 BEGIN DATA.

-4.9358	-5.9774	6.7789
.0000	-5.9774	8.3040
4.9358	-5.9774	9.8291
-4.9358	.0000	6.8711
.0000	.0000	8.1484
4.9358	.0000	9.4258
-4.9358	5.9774	6.9632
.0000	5.9774	7.9928
4.9358	5.9774	9.0224

END DATA.
 GRAPH/SCATTERPLOT=Isolation WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Isolatio Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = Isolatio
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3313	.1098	17.9081	5.7560	3.0000	152.0000	.0009

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1154	.3426	23.6894	.0000	7.4385	8.7922
Hedonia	.0245	.0640	.3825	.7027	-.1020	.1510
Isolatio	.2753	.0704	3.9116	.0001	.1363	.4144
int_1	-.0212	.0110	-1.9266	.0559	-.0429	.0005

Product terms key:

int_1 Isolatio X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0244	3.7119	1.0000	152.0000	.0559

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.4086	.1053	3.8796	.0002	.2005	.6166
.0000	.2753	.0704	3.9116	.0001	.1363	.4144
6.2941	.1421	.0916	1.5520	.1227	-.0388	.3230

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

Moderator value(s) defining Johnson-Neyman significance region(s)

Value	% below	% above
5.1633	79.4872	20.5128

Conditional effect of X on Y at values of the moderator (M)

Hedonia	Effect	se	t	p	LLCI	ULCI
-17.5641	.6471	.2144	3.0182	.0030	.2235	1.0708
-16.2141	.6186	.2004	3.0859	.0024	.2225	1.0146
-14.8641	.5900	.1866	3.1616	.0019	.2213	.9587

-13.5141	.5614	.1729	3.2463	.0014	.2197	.9031
-12.1641	.5328	.1595	3.3411	.0011	.2178	.8479
-10.8141	.5043	.1463	3.4472	.0007	.2152	.7933
-9.4641	.4757	.1334	3.5650	.0005	.2121	.7393
-8.1141	.4471	.1210	3.6942	.0003	.2080	.6862
-6.7641	.4185	.1092	3.8313	.0002	.2027	.6343
-5.4141	.3899	.0983	3.9679	.0001	.1958	.5841
-4.0641	.3614	.0884	4.0857	.0001	.1866	.5361
-2.7141	.3328	.0802	4.1509	.0001	.1744	.4912
-1.3641	.3042	.0740	4.1122	.0001	.1581	.4504
-.0141	.2756	.0704	3.9146	.0001	.1365	.4147
1.3359	.2471	.0699	3.5355	.0005	.1090	.3851
2.6859	.2185	.0724	3.0159	.0030	.0754	.3616
4.0359	.1899	.0778	2.4408	.0158	.0362	.3436
5.1633	.1660	.0840	1.9757	.0500	.0000	.3321
5.3859	.1613	.0854	1.8884	.0609	-.0075	.3301
6.7359	.1327	.0948	1.4006	.1634	-.0545	.3200
8.0859	.1042	.1054	.9884	.3245	-.1041	.3124
9.4359	.0756	.1169	.6465	.5190	-.1554	.3066

Data for visualizing conditional effect of X on Y
 Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/Isolation Hedonia Stress.
 BEGIN DATA.

-4.9358	-6.2941	5.9446
.0000	-6.2941	7.9613
4.9358	-6.2941	9.9779
-4.9358	.0000	6.7563
.0000	.0000	8.1154
4.9358	.0000	9.4744
-4.9358	6.2941	7.5681
.0000	6.2941	8.2694
4.9358	6.2941	8.9708

END DATA.
 GRAPH/SCATTERPLOT=Isolation WITH Stress BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
 95.00

NOTE: The following variables were mean centered prior to analysis:
 Isolatio Hedonia

NOTE: All standard errors for continuous outcome models are based on the
 HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = HIV_AIDS
M = Eudaimon

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0913	.0083	19.9487	.3703	3.0000	152.0000	.7746

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1359	.3542	22.9675	.0000	7.4361	8.8358
Eudaimon	-.0292	.0742	-.3937	.6943	-.1758	.1174
HIV_AIDS	-.0057	.0728	-.0779	.9380	-.1496	.1382
int_1	.0140	.0146	.9584	.3394	-.0149	.0429

Product terms key:

int_1 HIV_AIDS X Eudaimon

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0057	.9185	1.0000	152.0000	.3394

Conditional effect of X on Y at values of the moderator(s):

Eudaimon	Effect	se	t	p	LLCI	ULCI
-5.9774	-.0893	.0978	-.9140	.3622	-.2825	.1038
.0000	-.0057	.0728	-.0779	.9380	-.1496	.1382
5.9774	.0780	.1277	.6109	.5422	-.1743	.3303

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/HIV_AIDS Eudaimonia Stress.

BEGIN DATA.

-4.4677	-5.9774	8.7097
.0000	-5.9774	8.3105
4.4677	-5.9774	7.9113
-4.4677	.0000	8.1613
.0000	.0000	8.1359
4.4677	.0000	8.1106
-4.4677	5.9774	7.6128
.0000	5.9774	7.9613
4.4677	5.9774	8.3098

END DATA.

GRAPH/SCATTERPLOT=HIV_AIDS WITH Stress BY Eudaimonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
HIV_AIDS Eudaimon

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 1
Y = Stress
X = HIV_AIDS
M = Hedonia

Sample size
156

Outcome: Stress

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0393	.0015	20.0852	.0827	3.0000	152.0000	.9694

Model

	coeff	se	t	p	LLCI	ULCI
constant	8.1544	.3650	22.3409	.0000	7.4332	8.8755
Hedonia	-.0075	.0712	-.1054	.9162	-.1482	.1332
HIV_AIDS	-.0140	.0731	-.1911	.8487	-.1584	.1304
int_1	-.0057	.0161	-.3548	.7232	-.0376	.0261

Product terms key:

int_1 HIV_AIDS X Hedonia

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0013	.1259	1.0000	152.0000	.7232

Conditional effect of X on Y at values of the moderator(s):

Hedonia	Effect	se	t	p	LLCI	ULCI
-6.2941	.0221	.1425	.1548	.8771	-.2595	.3036
.0000	-.0140	.0731	-.1911	.8487	-.1584	.1304
6.2941	-.0500	.1049	-.4768	.6342	-.2572	.1572

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

***** JOHNSON-NEYMAN TECHNIQUE *****

There are no statistical significance transition points within the observed range of the moderator.

Data for visualizing conditional effect of X on Y

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/HIV_AIDS Hedonia Stress.

BEGIN DATA.

-4.4677	-6.2941	8.1030
.0000	-6.2941	8.2016
4.4677	-6.2941	8.3002
-4.4677	.0000	8.2167
.0000	.0000	8.1544
4.4677	.0000	8.0920
-4.4677	6.2941	8.3305
.0000	6.2941	8.1071
4.4677	6.2941	7.8837

END DATA.

GRAPH/SCATTERPLOT=HIV_AIDS WITH Stress BY Hedonia.

***** ANALYSIS NOTES AND WARNINGS *****

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
HIV_AIDS Hedonia

NOTE: All standard errors for continuous outcome models are based on the
HC3 estimator

----- END MATRIX -----

Appendix C – SPSS PROCESS Output for Mediation Analysis

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 4
 Y = Depressi
 X = Eudaimon
 M = RSES_Tot

Sample size
 156

Outcome: RSES_Tot

Model Summary

	R	R-sq	MSE	F	df1	df2
p	.2765	.0764	43.3362	12.7448	1.0000	154.0000
	.0005					

Model

	coeff	se	t	p	LLCI	ULCI
constant	11.2325	2.3961	4.6879	.0000	6.4991	15.9659
Eudaimon	.3158	.0885	3.5700	.0005	.1410	.4906

Outcome: Depressi

Model Summary

	R	R-sq	MSE	F	df1	df2
p	.7834	.6137	11.4558	121.5076	2.0000	153.0000
	.0000					

Model

	coeff	se	t	p	LLCI	ULCI
constant	19.4951	1.3169	14.8038	.0000	16.8935	22.0968
RSES_Tot	-.6096	.0414	-14.7125	.0000	-.6914	-.5277
Eudaimon	-.0419	.0473	-.8851	.3775	-.1354	.0516

***** TOTAL EFFECT MODEL *****

Outcome: Depressi

Model Summary

	R	R-sq	MSE	F	df1	df2
p	.2590	.0671	27.4834	11.0699	1.0000	154.0000
	.0011					

Model

	coeff	se	t	p	LLCI	ULCI
constant	12.6483	1.9081	6.6286	.0000	8.8788	16.4178
Eudaimon	-.2344	.0704	-3.3272	.0011	-.3735	-.0952

***** TOTAL, DIRECT, AND INDIRECT EFFECTS *****

Total effect of X on Y

Effect	SE	t	p	LLCI	ULCI
-.2344	.0704	-3.3272	.0011	-.3735	-.0952

Direct effect of X on Y

Effect	SE	t	p	LLCI	ULCI
-.0419	.0473	-.8851	.3775	-.1354	.0516

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
RSES_Tot	-.1925	.0589	-.3138	-.0830

Partially standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
RSES_Tot	-.0356	.0102	-.0552	-.0150

Completely standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
RSES_Tot	-.2127	.0590	-.3229	-.0927

Ratio of indirect to total effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
RSES_Tot	.8213	.5453	.5374	1.5107

Ratio of indirect to direct effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
RSES_Tot	4.5957	203.9040	.5588	640.9922

R-squared mediation effect size (R-sq_med)

	Effect	Boot SE	BootLLCI	BootULCI
RSES_Tot	.0651	.0407	.0072	.1628

Normal theory tests for indirect effect

Effect	se	Z	p
-.1925	.0556	-3.4618	.0005

***** ANALYSIS NOTES AND WARNINGS *****

Number of bootstrap samples for bias corrected bootstrap confidence intervals:
10000

Level of confidence for all confidence intervals in output:
95.00

NOTE: The Johnson-Neyman method is available only for Models 1 and 3

NOTE: Kappa-squared is disabled from output as of version 2.16.

----- END MATRIX -----