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GAYMERS UNITE! ATTACHMENT AND ONLINE SOCIAL SUPPORT FOR
LESBIAN, GAY, AND BISEXUAL GAMERS


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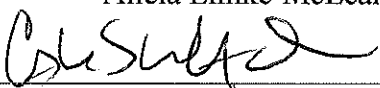
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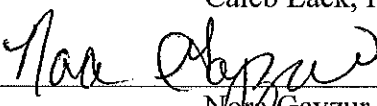
GAYMERS UNITE! ATTACHMENT AND ONLINE SOCIAL SUPPORT FOR
LESBIAN, GAY AND BISEXUAL GAMERS

A Thesis APPROVED FOR THE
DEPARTMENT OF PSYCHOLOGY

BY


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Abstract

Research on the links between attachment insecurity, nondisclosure of sexual orientation, and negative identity of lesbian, gay and bisexual (LGB) individuals suggests that attachment insecurity may be associated with perceptions of social support. However, LGB individuals who report high perceptions of social support tend to report better general health, more disclosure of sexual orientation, and less distress related to their sexual orientation than those who report low perceptions of social support. With the availability of online gaming and the social relationships that can thereby develop, LGB players may use game play to develop strong, healthy social support systems – especially if these individuals do not disclose or do not feel safe disclosing their sexual orientation to those in their immediate environments. The current study investigated the link between reports of outness and internalized homonegativity/binegativity (internalized negativity) and the moderating effects of attachment on perceptions of social support and symptomatology of lesbian, gay, and bisexual gamers. Findings suggest attachment acts as a moderator for the effects of internalized negativity and outness on symptomatology. Additionally, these findings demonstrate a secure romantic attachment style may not contribute to lower levels of internalized negativity. This could suggest individuals' perception of self, in relation to their ability to have their needs met in relationships, is independent of their perception of their sexual orientation.

Gaymers Unite! Attachment and Online Social Support for Lesbian, Gay and Bisexual Gamers

Video games have become a ubiquitous part of modern media and communication, with a diversity of game genres and mediums that allow for interactions with other players across the globe. Because of this connection, gaming communities can act as social relationships for players that can provide informational, emotional, and even tangible support. Social relationships, virtual or otherwise, can have a direct, beneficial effect on individuals' ability to cope and handle stress (Reinecke, 2009). Thus, it is possible that gay, lesbian, and bisexual (LGB) individuals, a group of people often faced with discrimination and prejudice, may turn to social video games to find others who share a similar experience and to build supportive, healthy relationships while enjoying the experience of playing games.

Social Support and Lesbian, Gay and Bisexuality

Although sexual minorities vary in crucial social characteristics like age, culture, ethnicity, and socioeconomic status that are central to the self-concept, there is one commonality within this population: LGB individuals tend to share considerably analogous experiences in terms of prejudice, discrimination, and stereotyping despite social context (Meyer, 2003). Because of this social oppression, LGB individuals are at a higher risk than their heterosexual counterparts for a variety of negative mental and physical health outcomes. For example, LGB populations report higher rates of substance use disorders, depression, anxiety, and suicidal tendencies than heterosexual populations (Balsam, Molina, Beandnell, Simoni, & Walters, 2011). Structural and systemic forms of sexual minority stigma, such as institutional policies or anti-LGB protests, are known to increase sexual orientation

concealment and increase levels of psychiatric distress over time (Hatzenbuehler, 2014; Frost, Parsons, & Nanin, 2007). The Minority Stress Theory theorizes that social environments are settings in which stigma, prejudice, discrimination, and associated stressors can exacerbate negative mental health outcomes (Meyer, 2003).

However, these stressors do not have to be overt, negative events. In the absence of overt anti-LGB events, LGB individuals may be harmed by directing negative social values toward the self. This internalization of societal antigay attitudes in LGB individuals (i.e., internalized homonegativity/binegativity) can lead to a devaluation of the self, resulting in internal conflict and poor self-regard (Meyer & Dean, 1998). This internalized negativity then affects mental health as these negative feelings about sexual orientation increase concealment of sexual orientation and expectations of future rejection when compared to individuals who do not report high level of internalized negativity (e.g., Feinstein, Goldfried, & Davila, 2012; Schrimshaw, Seigel, Downing, & Parsons, 2013).

In contrast to these overt and covert experiences of discrimination, social support can mitigate negative effects of minority stress and foster self-acceptance by providing group solidarity and cohesiveness (Branscombe, Schmitt, & Harvey, 1999). That is, having a connection to the lesbian, gay, and bisexual community at large facilitates the benefits of social support on well-being (Kertzner, Meyer, Frost, & Stirratt, 2009). Social support refers to the function and quality of social relationships, such as perceived availability of help or support actually received (Schwarzer & Knoll, 2007). Social support can have a moderating effect on the psychological impact of many negative experiences, including overt discrimination (e.g., DeGarmo & Martinez, 2006; Jasinskaja-Lahti, Liebkind, & Jaakkola, 2006; Schwarzer & Knoll, 2007). Social support has also been identified as one of the most

influential coping resources, regardless of the source of the stress. Specifically, social support can enhance the beneficial effects of coping (Lazarus & Folkman, 1984). In fact, when LGB individuals have a social group that allows them to be open about their sexuality and supports this identity regardless of whether members of this group share that identity, these individuals tend to report better mental health than those who do not have an accepting and supportive social group (Meidlinger & Hope, 2014; Senreich, 2010). Further, activating social support can aid in the process of LGB identity development. Being more out about sexual orientation identity attenuates the severity of sexual identity-related distress (Wright & Perry, 2006).

Social Support and Gaming

Reactions to stress are guided by a number of coping mechanisms. Lazarus and Folkman (1984) proposed two primary types of coping styles: emotionally-focused coping strategies (i.e., strategies that primarily focus on reducing emotional distress through avoidance, distancing or reappraisal) and solution-focused coping strategies (i.e., strategies that include direct efforts at defining the problem and generating solutions to the defined problem). In most instances, playing video games does not offer a direct solution to a problem; rather, playing games supports coping by granting relief from the negative affect and psychological distress produced by the stressor. In fact, individuals with a personal predisposition to for emotionally-focused coping styles are more likely to utilize playing games as a means of coping when faced with a psychosocial stressor; additionally, individuals who report more stress show a higher tendency to use games for coping and recovery purposes than those who report less stress (Reinecke, 2009). These individuals likely use games to self-regulate. However, though emotionally-focused coping tends to be

associated with higher levels of stress than solution-focused coping trends, emotionally-focused method of coping may not be as beneficial as solution-focused methods as it does not provide a means of addressing or solving the source of stress (Folkman & Moskowitz, 2004). In contrast, playing games as a means of coping with stress may create negative long-term effects if players abstain from implementing problem-focused coping strategies.

When it comes to online play, reported levels of social support predicts playing games online for recovery from stress (Reinecke, 2009). Individuals who reported lower levels of support showed a higher tendency to use video games as a means of addressing stress, suggesting that those with lower levels of social support may use playing games as a means to compensate for this deficit. Gaming may allow players who lack the social skills and prosocial behavior necessary to construct healthy levels of social support the ability to acquire and practice these skills that might then generalize to peer and family relations outside the gaming environment. In fact, even when the games are violent in nature, games that require players to work together increase helping behavior both while playing the game and performing tasks outside of the game (Greitemeyer & Osswald, 2010). Collaborative video games can allow players to overcome feelings of discrimination associated with a minority status and build a social community to help cope with and recover from daily stress (Granic, Lobel, & Engles, 2013; Velez, Mahood, Ewoldsen, & Moyer-Gusé, 2012). Though playing video games online limits the type of social support one is able to receive (primarily emotional as opposed to tangible), online gaming can serve as both a means of supplementing a lack of social support in individuals' physical environment as well as encourage helping behavior and aid in overcoming minority status discrimination.

Attachment and Gaming

To better understand who plays (and more specifically, problematically plays) games online, Attachment Theory (cf. Bowlby, 1969, 1977) provides a context for examining who is most likely to experience both positive and negative relational outcomes associated with playing games online. At its conceptualization, Bowlby (1977) proposed attachment as the ethological mechanism that kept caregivers and infants in close proximity. As such, those early caregiving experiences – specifically, mothers noting and attending to infants’ signals of distress and fear – become internalized as working models in children; from this, children develop expectations and beliefs about the self, especially with regards to worth and having their needs met by others (Bowlby, 1969).

When it comes to adult attachment patterns, these working models of the self and others (developed in childhood) then influence expectations of relationships in adulthood. Brennan, Clark, & Shaver (1998) proposed there are two relatively independent axes on which adult attachment styles are mapped: attachment anxiety and attachment avoidance. Attachment anxiety refers to how worried individuals are with regards to the availability, responsiveness, and attentiveness of their partners. In contrast, attachment avoidance refers to how self-reliant individuals are in addressing their own needs and being open to others emotionally. Individuals low in attachment anxiety and in attachment avoidance are considered largely secure in their attachments to others. Generally, securely-attached adults tend to have positive views of themselves, their partners, and their relationships, and they are comfortable with balancing intimacy and independence. Those who are high in one or both of these categories are considered to be insecurely attached and fall into three general insecure attachment styles. Individuals high in both avoidance and anxiety are considered to

avoid attachment relationships out of fear (i.e., fearful-avoidance). Individuals high in avoidance but low in anxiety are thought to be dismissing of attachments, highly self-reliant and unlikely to seek closeness to attachment figures when stressed (i.e., dismissing-avoidant). Finally, individuals low in avoidance but high in anxiety are thought to be preoccupied with attachment relationships, valuing intimacy to the extent they become overly dependent on an attachment figure (i.e., anxious-preoccupied).

For decades, researchers have found that individual differences in attachment predicted a variety of relationship outcomes. For example, individuals with secure attachment styles tend to adopt relationship-enhancing attributions for their partners' behaviors (Karney & Bradbury, 2000). Further, securely attached individuals also engage in the most relaxed and responsive communication with their relationship partners (Mikulincer & Shaver, 2013), showing expressive nonverbal behavior (Tucker & Anders, 1998) and engaging in adequate self-disclosure (Bradford, Feeney, & Campbell, 2002). Securely attached individuals experience the highest levels of intimacy with their partners, tend to be more committed to their partners than insecurely attached individuals are, and report the most frequent, pleasurable, and satisfying sex with their partners (Mikulincer & Shaver, 2007).

Although research is limited, attachment has also been recently linked to online gaming. Specifically, avoidant attachment (along with poor social skills) negatively predicts social involvement among offline-exclusive players and positively predicts involvement among online-exclusive players (Kowert & Oldmeadow, 2015). Attachment avoidance also predicts game play for the purpose of social comfort among all players; both attachment avoidance and attachment anxiety predicts playing for social comfort and not playing for entertainment among online-exclusive players, especially when feeling stressed, anxious,

sad, and lonely. That is, avoidant attachment may motivate players to seek comfort in a forum that accommodates the distance sought in relationships of individuals high in avoidant attachment. With that, avoidantly-attached individuals are just as likely to disclose to online as offline friends (Buote, Wood, & Pratt, 2009). Additionally, attachment avoidance partially mediates the relationship between time spent online gaming and time spent with immediate family and friends as well as relationship satisfaction (Limke-McLean, 2018).

Attachment and Lesbian, Gay, and Bisexuality

Although the presence and activation of social support can have a critical role in the developing of individuals' sexual orientation and buffering against identity-related distress, attachment can also play a crucial role in the process of LGB identity development. In particular, attachment insecurity may increase susceptibility to the fear of performing tasks necessary for identity development while also curtailing the exploration that is often critical in forging a positive LGB identity (Mohr & Fassinger, 2003). When compared to general heterosexual samples, general LGB samples have been found to have similar attachment style distributions (Kurdek, 1997, 2002; Ridge & Feeney, 1998). However, contrary to gender stereotypes, studies have provided evidence of higher levels of attachment anxiety in gay and bisexual men than in lesbian and bisexual women (Mohr & Fassinger, 2007; Ridge & Feeney, 1998).

A number of studies have indicated that attachment insecurity is linked to both internalized negativity and concealment of sexual orientation, suggesting attachment insecurity is associated with heightened fear about performing behaviors that could reflect self-acceptance and openness regarding sexual orientation (e.g., Elizur & Mintzer, 2003; Mohr & Fassinger, 2003). Responses to this fear could involve avoiding the challenges of

LGB identity development or halting the identity formation process for fear of rejection and discrimination. In fact, there is a strong association between attachment insecurity and internalized negativity (Mohr & Fassinger, 2003; Mohr & Daly, 2008). This suggests internalized negativity may contribute to the deterioration of relationships by means of reducing the degree to which relationships are invested in and viewed positively. Further, the negative effects of attachment anxiety on perceived problems in relationships are exacerbated for individuals who have experienced actual or threatened anti-LGB violence in the previous year (Mohr & Fassinger, 2007). These findings together suggest that, for LGB individuals, regular experiences of discrimination may leave the attachment system in a chronic state of activation, amplifying negative effects of attachment insecurity on functioning.

Current Study

The benefits of social support on LGB mental health and general well-being is, as noted, well-established in the literature (e.g., Meidlinger & Hope, 2014; Senreich, 2010). Gaming online, aside from being an attractive and entertaining hobby, can not only act as a means of recovering from stress but also act as an outlet for establishing meaningful social relationships, especially for individuals who may be lacking affirming sources of social support in their physical environment. Thus, LGB individuals may be more drawn to playing video games online and establishing these online connections when faced with regular minority stress and/or a lack of supportive social relationships. However, there is no research investigating how attachment could be moderating this attraction to online gaming, especially with regards to LGB individuals. As noted, there are higher levels of attachment anxiety in gay and bisexual men than in lesbian and bisexual women (Mohr & Fassinger, 2007; Ridge & Feeney, 1998). Further, both attachment avoidance and attachment anxiety predicts

playing for social comfort among online-exclusive players. Because attachment can be a crucial component in the develop of sexual identity, establishing how attachment influences the social support gained from playing games online is critical in understanding how this online support is key in developing positive perceptions of one's sexual orientation.

The purpose of the current study, then, is to investigate attachment as a moderator of the link internalized negativity and outness have with general mental health and perceptions of social support, particularly among LGB individuals who regularly play games online. Previous research in this area has neglected the potential influences of moderating variables, only investigating simple links such as those between romantic attachment and internalized negativity (Balsam & Szymanski, 2005; Elizur & Minter, 2003; Mohr & Fassinger, 2006) or support received from a partner and outness (Berger, 1990). However, since attachment plays a key role in internalized negativity, perceived support and outness, it could be acting as a moderator in the relationships that exist among these components of LGB identity. It was predicted that anxious and avoidant attachment would moderate the relationship between internalized negativity/outness and mental health symptomatology/reports of social support. In particular, individuals who are securely attached are hypothesized to have positive outcomes in terms of mental health symptomatology (“symptomatology”) and social support regardless of internalized negativity and outness.

Method

Participants

Because the study required that participants either identify as a sexual or gender minority (e.g., lesbian, gay, or transgender), play at least five hours of an online video game per week, and be of adult age (i.e., aged 18 or older), participants were recruited through

LGB gaming-based (i.e., “gaming”) forums (e.g., Reddit and similar postings). Two-hundred and fifty-two gamers participated in the study in return for a chance to win a \$25 Amazon gift card.

Of these 252 players, 75.00% identified as male; 22.22% identified female; and 4.37% identified as other/neither gender (answered as “choose all that apply”). In addition, 62.30% identified as exclusively gay/lesbian; 21.03% identified as mostly gay/lesbian; 14.29% identified as bisexual; 1.98% identified as pansexual; and 0.40% identified as mostly heterosexual. Of the participants, 80.16% identified as White (non-Hispanic); 3.57% identified as Black or African American (non-Hispanic); 1.98% identified as American Indian or Alaska Native; 8.43% identified as Asian; 8.73% identified as Hispanic or Latino/a; and 3.57% identified as “other” race/ethnicity (answered as “choose all that apply”). The players ranged in age from 18 to 52 ($M = 25.13$, $SD = 6.17$).

Materials

Sexual identity. Participants completed the Lesbian, Gay and Bisexual Identity Scale (LGBIS; Mohr & Fassinger, 2000). The LGBIS is a 27-item measure designed to assess six dimensions of lesbian, gay and bisexual identity including internalized homonegativity/binegativity (e.g., “I would rather be straight if I could.”), need for privacy (e.g., “I prefer to keep my same-sex romantic relationships rather private.”), need for acceptance (e.g., I will never be able to accept my sexual orientation until all of the people in my life have accepted me.”), identity confusion (e.g., “I’m not totally sure what my sexual orientation is.”), difficulty processing identity (e.g., Coming out to my friends and family has been a very lengthy process.”), and feelings of superiority based on identity (e.g., “I look down on heterosexuals.”) on a 7-point Likert-type scale (1 = strongly disagree; 7 = strongly agree).

Due to the nature of the research questions, only the internalized homonegativity/bi-negativity dimension (subsequently referred to as internalized negativity) was included.

Internal consistency for the dimension was moderate, $\alpha = .61$.

Participants also completed the Outness Inventory (OI; Mohr & Fassinger, 2000). The OI is an 11-item scale designed to assess the degree to which individuals are open about their sexual orientations. For each item, participants rated the extent to which relationship partners (e.g., mother, work peers, members of religious community) know and discuss the participants' sexual orientation using a 8-point Likert-type scale (0 = not applicable; 1 = this person definitely does NOT know about your sexual orientation/gender identity status; 2 = this person might know about your sexual orientation status, but is NEVER talked about; 7 = this person definitely knows about your sexual orientation/gender identity status, and it is OPENLY talked about). Due to the nature of the instrument, internal consistency is not available for this measure.

Attachment. To assess general attachment style, participants completed the Experiences in Close Relationships Scale – Revised (ECR-R; Fraley, Waller & Brennan, 2000) and the Relationships Questionnaire (RQ; Bartholomew & Horowitz, 1991). The ECR-R is a 36-item scale designed to assess individual differences with respect to attachment-related anxiety (i.e., the extent to which people are insecure or secure about the availability and responsiveness of romantic partners) and attachment-related avoidance (i.e., the extent to which people are uncomfortable being close to others or secure depending on others) on a 7-point Likert-type scale (1 = strongly disagree; 7 = strongly agree). This scale results in two dimensions of romantic attachment: avoidance (e.g., “Just when my partner starts to get close to me I find myself pulling away.”) and anxiety (e.g., “My desire to be very close sometimes

scares people away.”). In the current study, internal consistency was high, $\alpha = .93$ for avoidance and $\alpha = .89$ for anxiety. The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) includes a one-item forced-choice question assessing participants’ general attachment style. Participants choose between four categories of attachment by picking the vignette that describes them best: secure, dismissing, preoccupied, and fearful.

Social support. Participants completed a modified UCLA Social Support Inventory (UCLA-SSI; Dunkel-Schetter, Folkman & Lazarus, 1987). The UCLA-SSI is a 33-item measure assessing the type of support received, the extent to which support is sought and received, and satisfaction with support. Type of support consists of two dimensions: informational support (e.g., “Within the past three months, how often have you desired information or advice from others concerning school or work?”) and emotional support (e.g., “At certain times, we want to feel loved and cared about by others. Within the past three months, how often have you desired to feel loved and care about by others?”). The original UCLA-SSI only assesses perceptions of support from a parent, romantic partner and a friend. An additional source of support, an online friend, was added to this measure for the purposes of this study. A distinction was then made between support received from an online friend (i.e., an individual the participant plays online with regularly) and an offline friend (i.e., an individual the participant does not play online games with). Participants responded to each of the questions using a 5-point Likert-type scale (1 = never; 5 = very often). Participants answered questions regarding social support received by parents, romantic partners, offline friends, and online friends. Internal consistency was moderately high for all relationships, $\alpha s > .68$.

Symptomatology. Participants also completed the Brief Symptom Inventory (BSI; Derogatis, 1975), a 53-item measure that covers nine dimensions: somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The BSI also provides three global indices of distress: the Global Severity Index, positive symptom distress index, and positive symptom total. Internal consistency for the global severity index (a total measure of symptomatology) was very high, $\alpha = .95$.

Demographics. Finally, participants completed demographic information that assessed country of residence, age, ethnic background and legal marital status. Participants also completed questions to assess basic gaming habits, including the average number of hours he or she spent playing games online, preferences in genres of games (e.g., MMORPGs, strategy, life simulation) and preferences in online video game environment (e.g., player versus environment, player versus player).

Procedure

LGB gamers interested in participating in the study clicked on a link directing them to an online survey hosted by www.surveymonkey.com. After consenting, they provided information about their gaming experiences, symptomatology, sexual identity, social support, and attachment. Finally, they answered questions regarding their relationship status (and current relationship information, if applicable), in-game relationships, and demographic information.

Results

Gamers answered a categorical question assessing their general attachment styles. Of the 178 players in romantic relationships, 24.21% identified as securely attached, 26.19%

identified as dismissing attached, 18.65% identified as preoccupied attached, and 30.95% were fearful attached. The results of the general attachment style were compared to those expected based on previously collected data from a university sample (36.55%, 20.00%, 15.17%, and 28.28%, respectively), social media sample (31.15%, 20.01%, 17.62%, and 31.15%, respectively), a gaming sample (Limke-McLean, 2018; 50.00%, 29.21%, 6.18%, and 14.61%, respectively), a LGB sample identified by Ridge and Feeney (1998; 37.85%, 23.16%, 15.82%, and 23.16%, respectively), and the original Bartholomew and Horowitz (1991) sample (46.75%, 18.18%, 14.29%, and 20.78%, respectively). Chi-square goodness of fit analyses indicate that the frequencies of each category expected for the current sample of LGB gamers is different from those previously reported, $\chi^2_s(3, N \geq 77) \geq 8.86, ps \leq .03$. The current sample of LGB gamers is most similar to a social media sample and least similar to a traditional gaming sample.

Table 1 displays the correlations for measures of internalized negativity, outness, attachment, symptomatology, and social support. Hierarchical multiple regressions examined the moderating effect of attachment on the relationship between internalized negativity, outness, symptomatology, and social support. The main effects for outness and internalized negativity were entered on Step 1. Terms were centered for the purpose of testing interactions (Aiken & West, 1991). The main effects for attachment were entered on Step 2. Finally, all two-way interactions were entered on Step 3 and the 3-way interaction effects including both attachment avoidance and anxiety were entered on Step 4.

Symptomatology. Internalized negativity and outness predicted symptomatology, $R^2 = .11, F(2, 215) = 13.34, p < .001$. That is, internalized negativity and outness accounted for 11% of the variability in overall symptomatology. Adding attachment to the model resulted

in a significant change in its predictability, $R^2 = .29$, $F(2, 213) = 26.66$, $p < .001$. That is, internalized negativity, outness, attachment avoidance, and attachment anxiety accounted for 29% of the variability in overall symptomatology. Including two-way interaction terms also resulted in a significant change in the model's predictability, $R^2 = .34$, $F(6, 207) = 2.48$, $p = .03$. That is, internalized negativity, outness, attachment avoidance, attachment anxiety, and all possible two-way interactions accounted for 34% of the variability in overall symptomatology. Adding three-way interactions to the model did not significantly change the model's predictability.

Specifically, internalized negativity predicted symptomatology, $\beta = .20$, $t(215) = 2.89$, $p = .004$, and outness predicted symptomatology, $\beta = -.20$, $t(215) = -2.82$, $p = .005$. That is, as internalized negativity increased and outness decreased, symptomatology increased. Similarly, attachment avoidance marginally predicted symptomatology, $\beta = .12$, $t(213) = 1.90$, $p = .06$, and attachment anxiety predicted symptomatology, $\beta = .44$, $t(213) = 7.18$, $p < .001$. That is, as attachment avoidance increased and attachment anxiety increased, symptomatology increased. There was an interaction between internalized negativity and attachment anxiety, $\beta = .22$, $t(207) = 3.29$, $p = .001$ (see Figure 1). Attachment anxiety was a stronger predictor of symptomatology for individuals high in internalized negativity than for individuals low in internalized negativity. Moreover, symptomatology was lowest for individuals high in internalized negativity and low in attachment anxiety. There was also a marginal interaction between outness and attachment anxiety, $\beta = .13$, $t(207) = 1.93$, $p = .06$ (see Figure 2). For individuals high in anxious attachment, outness increased (rather than decreased) symptomatology.

Social support. Internalized negativity and outness predict friend social support, $R^2 = .07$, $F(2, 233) = 10.30$, $p < .001$. That is, internalized negativity and outness accounted for 7% of the variability in symptomatology. Adding attachment, two-way interactions, and three-way interactions did not significantly change the model's predictability. Specifically, outness predicted friend social support, $\beta = .31$, $t(233) = 4.54$, $p < .001$. That is, as outness increased, friend social support increased.

Internalized negativity and outness predict online friend social support as well, $R^2 = .02$, $F(2, 228) = 3.35$, $p = .04$. As such, internalized negativity and outness accounted for 2% of the variability in online friend social support. Adding attachment, two-way interactions, and three-way interactions did not significantly change the model's predictability. Specifically, internalized negativity marginally predicted online friend social support, $\beta = .13$, $t(228) = 1.85$, $p = .07$, and outness predicted online friend social support, $\beta = .17$, $t(228) = 2.37$, $p = .02$. That is, as internalized negativity increased and outness increased, online friend social support increased.

Internalized negativity and outness predict parent social support, $R^2 = .02$, $F(2, 233) = 3.21$, $p = .04$. In other words, internalized negativity and outness accounted for 2% of the variability in online friend social support. Adding attachment, two-way interactions, and three-way interactions did not significantly change the model's predictability. Specifically, outness predicted parent social support, $\beta = .17$, $t(233) = 2.38$, $p = .02$. That is, as outness increased, parent social support increased.

Finally, internalized negativity and outness predict romantic partner social support as well, $R^2 = .06$, $F(2, 231) = 8.44$, $p < .001$. As such, internalized negativity and outness accounted for 6% of the variability in romantic partner social support. Adding attachment to

the model resulted in a significant change in its predictability, $R^2 = .11$, $F(2, 229) = 6.93$, $p = .001$. That is, internalized negativity, outness, attachment avoidance, and attachment anxiety accounted for 11% of the variability in romantic partner social support. Adding two-way interactions to the model did not significantly change the model's predictability. However, adding three-way interactions to the model resulted in a significant change in the model's predictability, $R^2 = .13$, $F(2, 221) = 4.15$, $p = .02$. In other words, internalized negativity, outness, attachment avoidance, attachment anxiety, all possible two-way interactions, and three-way interactions including attachment avoidance and attachment anxiety accounted for 13% of the variability in overall romantic partner social support.

Specifically, outness predicted romantic partner social support, $\beta = .20$, $t(231) = 2.92$, $p = .004$. That is, as outness increased, romantic partner social support increased. Similarly, attachment avoidance predicted romantic partner social support, $\beta = -.25$, $t(229) = -3.69$, $p < .001$. That is, as attachment avoidance increased, romantic partner social support decreased. Finally, there was an interaction between internalized negativity, attachment avoidance, and attachment anxiety, $\beta = -.23$, $t(221) = -2.88$, $p = .004$ (see Figure 3). Internalized negativity predicts a lack of romantic partner social support only for those individuals who are securely attached (i.e., low in both attachment avoidance and attachment anxiety). As such, these individuals report the lowest levels of support (compared to securely attached players with low levels of internalized negativity reporting the highest levels of romantic partner social support).

Discussion

The purpose of the current study is to investigate attachment as a moderator of the link between internalized negativity/outness and symptomatology/perceptions of social

support, particularly among LGB individuals who regularly play games online. Previous research in this area has neglected the potential influences of moderating variables, only investigating simple links such as those between romantic attachment and internalized negativity (Balsam & Szymanski, 2005; Elizur & Minter, 2003; Mohr & Fassinger, 2006) or support received from a partner and outness (Berger, 1990). The present study provides support for the role of attachment as a moderator between these variables of internalized negativity, outness, symptomatology, and perceptions of social support particularly among a gaming sample.

Internalized negativity reliably predicted symptomatology and all forms of social support assessed (i.e., support from an offline friend, an online friend, parent and romantic partner), with higher levels of internalized negativity predicting higher levels of symptomatology and lower levels of social support. These findings support existing literature which suggest same-sex relationship quality (i.e., partner social support) is inversely related to internalized negativity (Balsam & Szymanski, 2005; Elizur & Mintzer, 2003; Mohr & Fassinger, 2006) as well as literature which suggests a significant correlation between internalized negativity and well-being (Cain, Mirzayi, Rendina, Ventuneac, Grov, & Parsons, 2017; Williamson, 2000). Because internalized negativity is a minority stressor that results from interactions with the environment, this negativity not only affects individuals' general well-being, but it can also increase concealment of sexual orientation due to expectations of future rejection and/or increase concealment as a result of experienced rejection. This concealment, then, may limit individuals' sources of support as they may find it difficult to establish trusting, reliable forms of support that affirm their sexual orientation.

With regards to concealing sexual identity, outness reliably predicted symptomatology and all forms of social support assessed, with lower levels of outness predicted higher levels of symptomatology and lower levels of social support. As with internalized negativity, these findings support existing literature which suggests decreased levels of outness (i.e., concealment) about sexual orientation strongly predicts poor mental health and poor overall well-being (Meidlinger & Hope, 2014). Not surprisingly, concealment of sexual identity should lead to lower perceptions of social support as this disclosure is necessary for maintaining good mental and physical health. Expressing emotions and sharing important aspects of the self with others are important factors in health (Pennebaker, 1995) and suppression of this important information predicts adverse health outcomes (Bucci, 1995). In fact, outness has a direct impact on general health (Cole, Kemeny, Taylor, & Visscher, 1996; Cole, Kemeny, Taylor, Visscher, & Fahey, 1996).

Concealing sexual orientation can be an attractive form of coping, especially if the individuals have faced discriminatory experiences in their past or maintain a consistent fear of facing these experiences. Yet, paradoxically, this concealment may backfire and become an additional stressor on the individual (Miller & Major, 2000). The cost of concealing identity can result in cognitive burden that is involved in constant preoccupation and hiding. As mentioned, this concealment, whether inspired by experiences of discrimination, fear of these experiences, or individuals' own poor self-regard for their sexual orientation, can limit available social support resources. Though this argument lends itself to an unanswerable paradox (i.e., is concealment the result of internalized negativity or is internalized negativity the result of concealment), outness is the stronger predictor of symptomatology and social support for this sample.

Though they surprisingly did not significantly predict social support, both attachment anxiety and attachment avoidance were significant predictors of general symptomatology. Bowlby (1973, 1980) theorized when individuals develops negative representations of themselves or others, or when they adopt problematic strategies for processing attachment-related cognitions and emotions, they become more likely to develop psychopathology. In fact, insecure attachment can predict a number of pathological symptoms and psychiatric disorders, such as depression (e.g., Duggal, Carlson, Sroufe & Egeland, 2001), anxiety (e.g., Bandelow, Spath, Tichauer, Broocks, Hajak, & Ruther, 2002), eating disorders (e.g., Vidovic, Juresa, Begovac, Mahnik, & Tocilkj, 2005), and Borderline Personality Disorder (e.g., Lyons-Ruth, Yellin, Melnick, & Atwood, 2005).

As hypothesized, attachment acted as a moderator in the relationship between internalized negativity and symptomatology as well as the relationship between outness and symptomatology; however, these findings suggest only attachment anxiety (not avoidance) acts a moderator in these relationships. Attachment anxiety is a stronger predictor for symptomatology in individuals who reported higher levels of internalized negativity than for individuals low in internalized negativity. Surprisingly, those with higher levels of internalized negativity and lower levels of attachment anxiety reported the lowest levels of symptomatology. Given the well-established connection between internalized negativity and symptomatology, it was expected lower levels of attachment anxiety would amplify the protective effects of lower internalized negativity. These findings could suggest lower levels of attachment anxiety, when accounted for, provide a stronger protective factor to symptomatology independent of individuals' perception of their sexual orientation. That is, if

individuals views their relationships as more secure or, at least, dismissive, then this may contribute more toward well-being regardless of their own feelings about their sexuality.

For individuals high in attachment anxiety, outness increased (rather than decreased, as predicted) symptomatology. As noted, higher levels of outness tend to predict lower levels of symptomatology (Meidlinger & Hope, 2014). Yet, once attachment anxiety is added to the model, a difference in symptomatology can be seen based on levels of outness. Research suggests negative effects of attachment anxiety on perceived problems in relationships were exacerbated for individuals who had experienced actual or threatened anti-LGB violence in the previous year (Mohr & Fassinger, 2007). Individuals high in outness may indirectly make themselves vulnerable to instances of anti-LGB discrimination. This suggests, then, that severe stigma-related stressors (e.g., regular instances of LGB-discrimination) may leave the attachment system in a chronically-activated state, thereby amplifying negative effects of attachment insecurity. Thus, those with higher levels of outness may further experience greater levels of attachment anxiety than those with lower levels of outness, which contribute to increased levels of symptomatology. Conversely, those with lower attachment anxiety reported less symptomatology than their higher attachment anxiety counterparts, and it would appear lower levels of anxious attachment amplify the protective factors outness can have on symptomatology.

These interaction effects both support existing research on the influence of attachment insecurity on sexual minority health and provide additional understanding of the dynamics of this relationship. Attachment insecurity may predispose individuals to a susceptibility to fear with regards to identity development; this fear, then, may limit exploration that is often crucial in developing a positive sexual minority identity. There

exists a number of studies supporting this hypothesis, indicating that attachment insecurity is linked to negative identity and nondisclosure of sexual orientation (Elizur & Mintzer, 2003; Mohr & Fassinger, 2003; Wells & Jansen, 2003). Though these studies do not explore causal relations between attachment and sexual identity, they do suggest attachment insecurity is associated with heightened fear and anxiety about being accepted socially. The current findings would also support this hypothesis and further suggest the combined effects of attachment anxiety, concealment of identity, and internalized negativity contribute to poorer general health more so than any of these variables independently.

Finally, and most interestingly, internalized negativity predicted low romantic partner social support only for those players where were securely attached (i.e., low in attachment avoidance and anxiety). Previous studies have found an association between attachment insecurity and internalized negativity, suggesting that internalized negativity may discourage the formation of same-sex bonds in which intimate closeness and trust can be tolerated (Mohr & Daly, 2008; Mohr & Fassinger, 2003). This association would create an ironic state of affairs because the inability to use a partner as a secure base for exploration of an LGB identity may prevent individuals from gaining the experiences necessary to decrease internalized negativity. Thus, having a secure base could contribute to partner support and ultimately lower levels of internalized negativity. However, the present findings suggest that even for individuals with a secure attachment to their partner, internalized negativity was not sufficient for establishing security with partners. Although those with low internalized negativity function similarly to heterosexual couples with secure attachment, higher levels of internalized negativity influence how partners can utilize the relationship – at least in terms of sexual identity exploration. It would appear, then, that these individuals with secure

attachment but high internalized negativity are able to reach out to their partners for support, but this support does not include regulating emotions pertaining to or processing their sexual orientation exploration.

The present findings on secure attachment, though, may support recent findings regarding relationship well-being across time for securely-attached couples. These recent findings suggest secure individuals expect their current relationship to remain relatively stable and consistent over time; however, most individuals do experience fluctuations in their relationship-specific attachment security. Greater fluctuations in this security predicts declines in relationship satisfaction and increases in relationship distress over time, primarily for secure individuals (Girme, Agnew, VanderDrift, Harvey, Rholes, & Simpson, 2018). Thus, secure attachment may not reliably predict higher levels of relationship satisfaction and lower levels of relationship distress. If internalized negativity is inversely related to relationship satisfaction (Balsam & Szymanski, 2005; Elizur & Mintzer, 2003; Mohr & Fassinger, 2006), the type of attachment individuals have with their romantic partner may not contribute to relationship satisfaction or levels of internalized negativity. Unlike heterosexual individuals, LGB individuals experience instances of minority stress related to their sexual orientation and this stress can contribute to the development of internalized negativity (Meyer, 2003). Yet, as mentioned, without a secure base to explore sexual orientation identity, it can be difficult for individuals to obtain the experiences to decrease internalized negativity. These present findings, then, may suggest a secure attachment is likely not the kind of secure base needed to gain these experiences. Rather, it would appear other factors are necessary in a romantic relationship for individuals to gain these experiences necessary for reducing internalized negativity.

Further, the present findings may support a compartmentalization model of self-structure (cf. Showers, 1992). According to this model, individuals construct contextualized selves that organize positive and negative beliefs about the self in a way that serves self-goals (Showers, 2000). Thus, individuals concept of the self can consist of a set of aspects that correspond to their most salient identities. These individuals with secure attachment and high internalized negativity may have two independent sets of aspects of the self. That is, these individuals may have positive view of the self (with regards to providing and receiving support in their relationship) outside of their sexual orientation. Thus, these two views of the self can coexist within an individual, and the potential of this coexistence may be unique to sexual orientation minorities.

Limitations and Future Research

Some important limitations of the present research should be mentioned as these should be used to guide future research with regards to both LGB gamers and the interaction attachment seems to have on the relationships between internalized negativity/outness and symptomatology/social support. First, no distinction was made between homosexual and bisexual stigma in the present study. Although both homosexual and bisexual individuals experience hostility and discrimination, this hostility and discrimination is not homogeneous between these groups. Research suggests there are two significant distinctions between anti-lesbian/gay and bisexual stigma. First, bisexual individuals are stereotyped as having an unsolidified sexual identity and being sexually irresponsible (Brewster & Moradi, 2010; Mohr & Rochlen, 1999). Bisexual individuals report higher rates of being accused of experimenting with their sexuality, transitioning to a homosexual identity, having sexually-transmitted infections, being obsessed with sex, or being more likely to be unfaithful than

those who are exclusively heterosexual or homosexual. Second, bisexual individuals are at risk of experiencing anti-bisexual stigma from both heterosexual and lesbian/gay populations, whereas lesbian/gay individuals generally view stigma as arising only from heterosexual populations. Thus individuals identifying as bisexual or other non-exclusive sexual orientation may experience more instances of discrimination than their exclusive counterparts. These instances of discrimination may be different than those experienced by individuals identifying as exclusively homosexual and, in turn, these two types of discrimination may lead to unique experiences of internalized negativity. However, there is limited research on any longitudinal differences with regards to internalized negativity between those who identify as exclusively-homosexual and bisexual. Future research should account for these differences among sexual orientation minorities, and it is predicted these differences would be evident in a gaming sample, with bisexual individuals experiencing greater levels of internalized negativity and thus possibly reporting higher rates of symptomatology and lower rates of social support than those who identify as exclusively heterosexual or homosexual.

Second, this sample of LGB gamers was not a representative sample. In terms of attachment style distribution, this sample most closely resembled a social media sample (i.e., sample of individuals who frequently utilize social media) as opposed to a general gaming sample with no distinction made by sexual orientation (Limke-McLean, 2018) or a general LGB sample (Ridge & Feeney, 1998). These findings could suggest LGB gamers more closely resembles a social networking population that also utilizes online relationships as a means of acquiring social support or the LGB gamer population maintains an attachment style distribution that is unique to itself. When compared to general heterosexual samples,

general LGB samples have been found to have similar attachment style distributions (Kurdek, 1997, 2002; Ridge & Feeney, 1998). However, contrary to gender stereotypes, studies have provided evidence of higher levels of attachment anxiety in gay and bisexual men than in lesbian and bisexual women (Mohr & Fassinger, 2007; Ridge & Feeney, 1998). Fear of abandonment may be higher in male same-sex partners due to expectations of lack of intimacy based on restrictive male gender roles (Brown, 1995), expectations of nonmonogamy (Peplau & Spalding, 2003), and general exposure to particularly negative attitudes and stereotypes associated with being a gay male (Kite & Whitley, 1996; Meyer, 2003). Because the sample in the present study was primarily male, this overrepresentation of males may have contributed to an overrepresentation of attachment anxiety. This would, then, support research that suggests gay and bisexual men are more anxiously attached than their heterosexual counterparts (Mohr & Fassinger, 2007; Ridge & Feeney, 1998). Future research is necessary to determine if there is a difference in attachment style distribution among the LGB gamer population.

The present study also did not account for gaming preferences that could contribute to the need to seek support online or perceptions of support gained online. The social environment of online video games could significantly contribute to how readily available supportive social connections can be made. Online video games can generally be divided into two primary social environments: player-versus-player (PvP) social environments and player-versus-environment (PvE) social environments. In PvP games, players typically work independently or in teams against other players (e.g., *Modern Warfare*, *Overwatch*). Though these games involve playing with other individuals, these games do not require relying on player-player collaboration to succeed. Additionally, these games are typically structured as

randomly-assigned matches and upon conclusion of the match, players will be randomly assigned to a new match (unless players have put forth effort to organize a group or clan that will enter matches together). PvE games, conversely, encourage players to work cooperatively in order to overcome obstacles within the game's environment (e.g., *World of Warcraft*, *Guild Wars*). These games tend to encourage collaboration and are more conducive to developing ongoing relationships than PvP games are because gameplay is structured around an ongoing story rather than a time-limited match. Collaborative gameplay increases helpful behavior, reduces ingroup-outgroup mentality, and reduce outgroup members' aggressive cognitions (Velez, Mahood, Ewoldsen, & Moyer-Guse, 2012). Thus, LGB players who play games that encourage collaboration may experience fewer instances of discrimination and stigmatization than those who play games that encourage competition. Future research could investigate if there are differences between players drawn to PvP as opposed to PvE gaming environment. It is predicted players who prefer PvE may report higher levels of online social support than those who prefer PvP; additionally, players with higher rates of attachment anxiety may be more drawn to gaming environments that encourage building relationships with other players than gaming environments that encourage player competition.

The findings of the present study suggest support for a significant relationship among internalized negativity, outness, attachment, symptomatology, and social support; however, they do not establish any sort of casual relationship. That is, these findings are limited in explaining how this relationship is formed. As noted, attempting to establish a causal relationship from these findings could lend itself to a number of unanswerable paradoxes. These findings cannot reliably establish if internalized negativity or outness result in lower

perceptions of social support or if experiences of discrimination from potential sources of support lead to concealment of sexual orientation or development of internalized negativity. Future research should include attempts to manipulate attachment state of mind to examine changes in the moderating effects of attachment. Main and colleagues (Main & Goldwyn, 1984; Main, Goldwyn, & Hesse, 2003) proposed a system of attachment that incorporates “attachment state of mind.” This state of mind refers to how individuals can flexibly integrate thoughts and feelings about relationships, as well as to the processes that support or exclude relationship-related information from their thinking. It is likely, then, that encouraging a secure state of mind – even for individuals high in internalized negativity – could increase perceptions of support.

Finally, qualitative methods could provide deeper insight into how LGB gamers perceive social support online and how this support influences their functioning. Though the major findings of the present study do not yield a great deal of significant information about the support receiving by playing games online, these findings suggest online support is equally as vulnerable to the effects of internalized negativity and outness as other potential forms of support. Future research utilizing qualitative methods, such as narratives or interviews, may better document how online social support differentiate itself from other forms of support gamers receive offline.

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Appendix A

Submission Letter to *Journal of Homosexuality*

April 25, 2018

John P. Elia
Editor, *Journal of Homosexuality*
San Francisco State University
1600 Holloway Avenue
San Francisco, CA 94132

Dear Dr. Elia:

Attached is the manuscript entitled “Gaymers Unite! Attachment and Online Social Support for Lesbian, Gay and Bisexual Gamers” coauthored with Alicia Limke-McLean for your review for possible publication in *Journal of Homosexuality*. This manuscript examines the link between reports of outness and internalized homonegativity/binegativity and the effects of attachment on perceptions of social support for lesbian, gay and bisexual individuals who regularly play video games online.

These data were collected in accordance with APA ethical standards for research with human participants. These data have not been published previously and they are not under consideration for publication elsewhere.

Thank you for considering this manuscript. Please do not hesitate to contact me if you have any concerns or questions.

Best regards,

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Table 1

Correlations between Internalized Negativity, Outness, Attachment, Symptomatology, and Social Support

Variable	1	2	3	4	5	6	7	8
1. Internalized negativity								
2. Outness	-.38**							
3. Avoidance	.26**	-.37**						
4. Anxiety	.30**	-.17**	.53					
5. Symptomatology	.28**	-.26**	.20**	.48**				
6. Social support – parent	-.05	.16*	-.14*	-.01	-.15*			
7. Social support – friend	-.01	.27**	-.16*	.07	-.12	.34**		
8. Social support – partner	-.17**	.24**	-.31**	.04	-.01	.03	.05	
9. Social support – online	.07**	.12	-.14*	.08	.06	.14*	.40**	.10

Note. $N = 252$

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

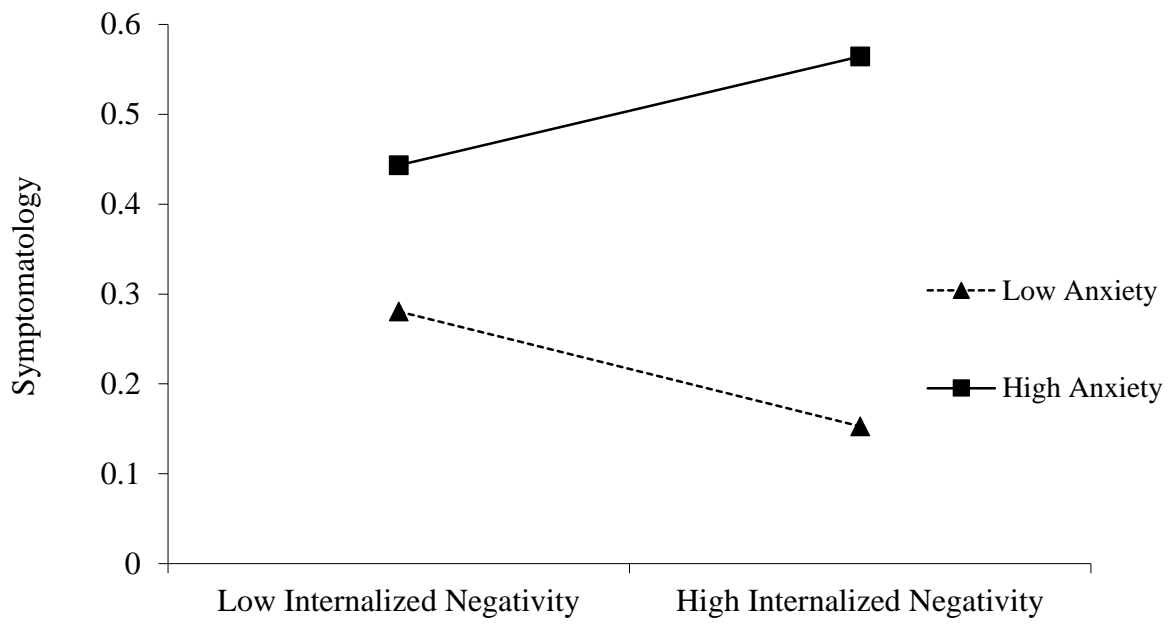


Figure 1. Adjusted predicted values for symptomatology, illustrating the interaction between internalized negativity and attachment anxiety at one standard deviation above and below the means.

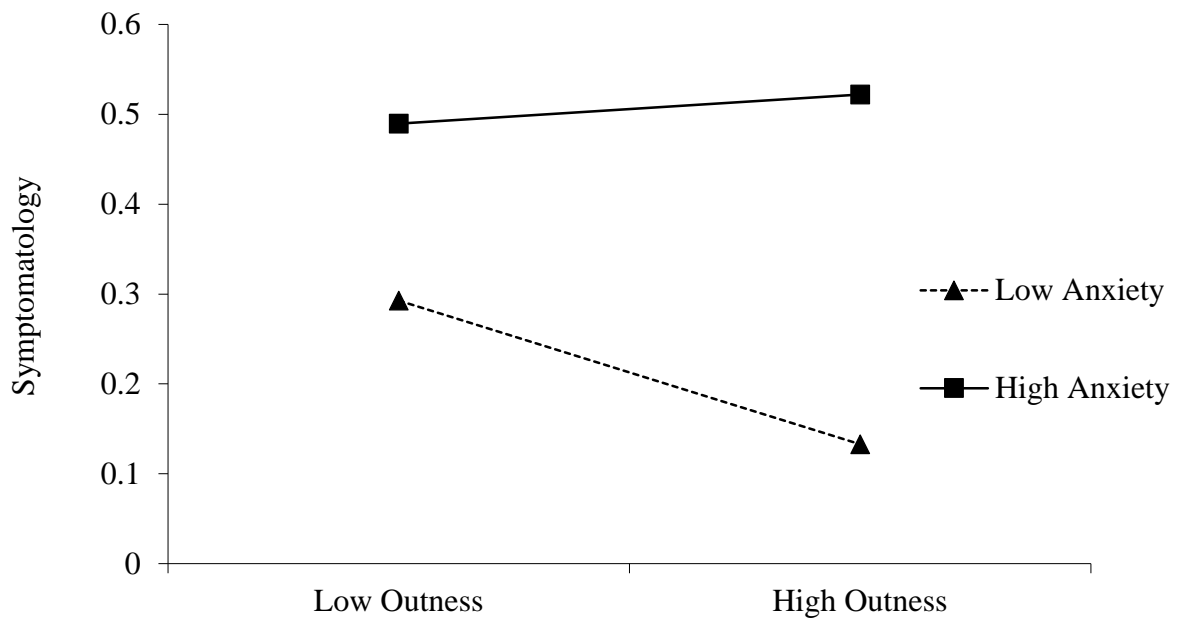


Figure 2. Adjusted predicted values for symptomatology, illustrating the interaction between outness and attachment anxiety at one standard deviation above and below the means.

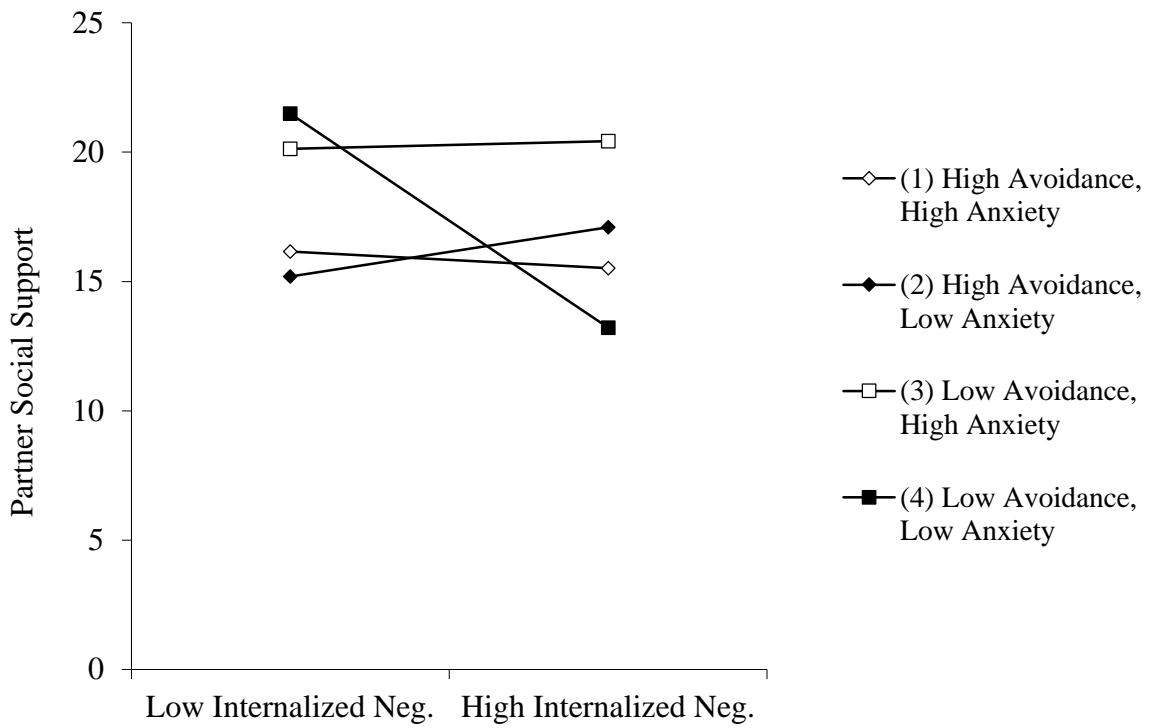


Figure 3. Adjusted predicted values for partner social support, illustrating the interaction between internalized negativity, attachment avoidance and attachment anxiety at one standard deviation above and below the means.