

Outness, Self-Esteem, Stigma, Psychological Health and Mobile Dating Application Use in
Gay and Bisexual Men

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Abstract

Background; Outness consists of Disclosure and Concealment, the sliding scale of each relates to the pattern of people's openness regarding their sexual orientation. Contemporary psychological research continuous to conflate Gay and Bisexual people to a single variable despite evidence of differences between them in Mental Health, Internalised Homophobia, Disclosure and Self-Esteem. Low Self-Esteem previously related to higher internet use, highly concealed minorities had a higher preference for Online Dating websites. Mobile Dating Applications allow users to explore online 'queer-space' while stratifying how much identifying information they disclose.

Aims; to demonstrate how these psychological variables relate to App Use in minority males and how they influence disclosure behaviours. Finally, to validate distinctions between Homosexuality and Bisexuality

Methods; Mixed design with quasi-experimental components. A total of 698 individuals participated in an online survey.

Results; Gay and Bisexual Men significantly differed on Disclosure only. Outness contributed more to Internalised Homophobia. Low Self-Esteem and High Concealment were not related to Dating Application Use. Out minorities were 7 times more likely to disclose visible face pictures.

Introduction

Outness

The concept of Outness and its subcomponents such as Disclosure and Concealment will be defined; their unique pronouncement between distinct sexual minority identities will be discussed with reference to literature from Queer Theory and Psychological Research. Finally, the underrepresentation of Bisexuality as controlled variable in Psychological research will be critically evaluated and how this will be implemented in the current research.

Outness can refer to the salience of sexual identity among Lesbian, Gay, Bisexual and Transsexual people (LGBT+), meaning how fluid or publicly known their minority status is (Kluttz, 2014). Within this study Sexual Orientations are distinguished by differing behavioural and relational romantic expressions toward other people that are both a satisfying and personal component of identity; homosexuality is defined as being having emotional, sexual or romantic attraction to one's own sex, while for bisexuality, that attraction that variously extends to both men and women (American Psychological Association, 2008). How open with others an LGBT+ person is about their sexual orientation or their relationship with same-sex partners can be known colloquially as how "out of the closet" they are. Research has shown that Outness can be positively associated with outcomes of stress unique to minorities such as depression and anxiety (Meidlinger & Hope, 2014). However, studies conducted within the past 20 years have indicated better mental health outcomes are now related to greater outness in minorities, comparing to older research in which outness was consistently related with increased mental health problems. This trend is not without exceptions and certain contextual variables may influence whether outness affords protection or risk (McGarrity & Huebner, 2014).

Outness operationalized by Meidlinger and Hope (2014) encompasses two conceptually similar, yet distinct constructs referred to as Disclosure and Concealment. Larson and Chastain (1990) have previously provided adequate definitions of each construct.

Disclosure denotes the revealing of information, verbally or otherwise, including one's thoughts and feelings. Concealment is alternatively distinguished by the emphasis of desire in intentionally withholding sensitive or personal information (Larson & Chastain, 1990; Schrimshaw, Sigel, Downing & Parsons, 2013).

Previous hypotheses that attempted to explain the influences for people concealing personal information from others have included social-determinants such as perceived consequences, whereas disclosure could be influenced by a prospect of imagined reward (Bugental, 1968). Such theories were gathered on the basis of the assumption that it is rewarding in itself 'not' to be victimised on account of whatever private or sensitive information is divulged. Concealment in this instance can be analogous to 'Selective-Representation' by which people promote themselves through emulating patterns that are believed to be desirable; in this case not divulging information (Bugental, 1968).

Motivations for Disclosing or not disclosing may be influenced by a person's past experiences. Negative criticism from previous instances of disclosure may reinforce future instances of interpersonal communication being subjected to efforts of concealment, due to salient stigma perceived. Concealment does not strictly consist of purely negative aspects with equally consequential effects. It may functionally serve as an adaptive strategy in hostile environments (Pachankis, 2007). Although disclosure may have unfavourable costs in hostile environments, such as rejection and indiscretion, Self-Esteem was generally rated higher when congruency and low concealment was observed between public and private self-identities (Baumeister, 1982).

Significant differences in Disclosure have been demonstrated between Gay, Lesbian and Bisexual people. Fewer instances of Disclosure were reported from bisexual participants while differences for concealment were not observed between varying orientations; although a strong negative relationship was exhibited for active concealment with both minority stress

and well-being variables separately. The more people concealed, the lower overall well-being was rated, whereas lesser instances of concealment was correlated with greater experiences of minority-related stress (Meidlinger & Hope, 2014).

Concealment of a minority sexual status has been related to heightened psychological distress (Sedlovskaya, Purdie-Vaughns, Eibach, LaFrance, Romero-Canyas & Camp, 2013). These findings were consistent with results gathered from Schrimshaw et al. (2013) who also found a positive correlation between concealment and socio-economic status; bisexual men with higher incomes demonstrated higher concealment, comparing to those with lower income, yet were inversely related to positive affect and overall well-being

Meidlinger and Hope (2014) further suggest that full disclosure may not be as functionally equivalent for bisexual people as it can be for gay and lesbian individuals. Explicit information may be further required to qualify bisexuality as legitimately distinct from homosexuality. Such distinctions can include behaviour, degree of psychological predilection and attraction toward varying genders and the particulars of their current relationship, that are otherwise implicit for other sexual orientations including heterosexual. A simple example of this can be illustrated by using a framework of biological-sex-binary; implicit disclosure may be taken for granted when both homosexual and heterosexual people reference their partner's biological sex. A person's bisexual identity is not as easily assumed when referencing a partner of same or opposite biological sex.

Concealment involves constantly controlling the information regarding oneself. Thus it is suggested that Concealment of minority sexual orientation related to heightened psychological distress is moderated by the extra cognitive effort required in monitoring one's self-expression; particularly when a distinction for a public and private self is perceived as necessary (Sedlovskaya et al., 2013).

The employment of concealment as a coping strategy to ameliorate psychological stress has demonstrated a counterintuitive result, whereby the additional cognitive strain from concealing has inadvertently contributed to these stresses (Meyer, 2013). With active concealment of a sexual minority status, an individual can escape social discrimination. However this does not imply that negative psychological affect is also circumvented. The desire or perceived need to conceal a sexual orientation may be consequentially problematic for self-evaluation, behaviour and cognition.

Highly concealed individuals suffering stigma-related stress may less frequently turn to other people for support (Hatzenbueler, 2009). Knowledge of incidents where victimization are bias-related is likely to influence individuals in avoiding situations where they believe discoveries of concealable status may lead to such victimizing consequences (Pachankis, 2007).

Online communities and social networking websites (SNS) that accommodate 'Men who have sex with men' (MSM) may provide an outlet that alleviates minority stress conducive to negative psychological consequences. These specific networking websites have been viewed by their users as secure spaces due to the level of control granted to users in both interaction and information sharing. Additionally they prove a beneficial means for gaining access to offline homosexual objectives including romance, sexual health information, community and friendship (Groves, Breslow, Newcomb, Rosenberger & Bauermeister, 2014; Miller, 2015).

Self-Esteem and Online Interaction

Brief outlines for differing Self-Esteem definitions will be provided and how parameters of Lower and Higher Self-Esteem scores are observed in relation to Internet Use.

Self-Esteem implies conceptually distinct constructs generally referring to people's affective attitudes toward oneself that reliably shows certain correlations (Herek et al., 2009). Global or *Trait* Self-Esteem, as a personality variable represents the way one evaluates or feels about themselves; it demonstrates stability over time, persists throughout adulthood and endures across situations. Alternatively, *State* Self-Esteem accounts for flexibility and shows how situational events may influence the fluctuation of a person's feeling of self-worth. Sexual orientation and Online Communication through Social Networking sites may imply a *Domain Specific Self-Esteem* as modalities of communication and self-presentation are arguably conducive to both interpersonal relationships and a person's evaluation in their own ability to negotiate these types of interactions. Domain Specificity acknowledges that Self-Esteem, in regards to a person's abilities and self-evaluation, is relative to functionally differing areas within their life (Brown & Marshall, 2006). Furthermore, previous studies have also assessed Self-esteem as a 'component variable' for overall Psychological Well-Being (Lee & Cheung, 2014).

The situations that influence our sense of self-worth and psychological well-being may be mediated through virtual or electronically interface. Roth (2014. p.2115) supports the argument that online personas, such as personal profiles generated on the internet, are less independent from and more intimately connected to the user, as experiences and actions from electronic interfaces can have real-world psychological consequences.

Furthermore it is generally assumed that an online interface alleviates discomfort for these users (Mikyong, Kwon & Lee, 2009) however this initial assumptions have not explicitly accounted for a person's level self-esteem. Research by Valkenburg and Peter (2007)

reported that highly active online-dating users rated lower in anxiety and also engaged in high sociability events such as family interaction. However, this analysis did not control for level of personal disclosure or concealment that the user shares with their family or social circle.

Mikyong, Kwon and Lee (2009) found significant interactions between Self-Esteem and online dating services, particularly when the importance of romantic relationships was factored in. High Self-Esteem (HSE) participants were only reported to avail of online dating services less often than Low Self-Esteem participants (LSE) when involvement in romantic relationships was rated as less important. Additionally, evidence from this study supported that the range of self-esteem level influenced inclination and reluctance in self-disclosure and online self-presentation; in which LSE rated experiencing greater discomfort and higher stress in promoting themselves when compared to HSE.

Experimental research on Self-Esteem and internet usage has demonstrated an inverse correlation between LSE and greater preferences for the choice of electronic communication with another person over face-to-face interaction (Joinson, 2004). An opposite trend was also shown for participants who rated higher in Self-Esteem; face-to-face contact was favoured comparing to electronic interaction. These results lend support to the hypothesis that control of a user's self-representation is offered via electronic communication and e-mail (Walther, 1996) and has been further inferred that choice of media interaction was motivated by certain needs for self-protection (Joinson, 2004).

Research comparing minority with non-minority groups have returned equivocal results regarding minorities exhibiting lower scores of overall self-esteem (Meyer, 2013. p 10). Higher ratings of self-esteem were observed only after affiliation with other members of a shared, identified minority. Additionally, actual experience of low self-esteem in itself was negatively correlated with the visibility of the specific minority; the lower the self-esteem scores, the higher the concealment (Pachankis, 2007; Hatzenbuehler, 2009).

However these findings are inconsistent with other studies which established that lower ratings of personal esteem harboured toward a similarly affiliated group, despite whether the group were publicly oppressed or not, may negatively affect Collective Self-Esteem (Turner, 1975; Gray & Desmarais, 2014). Similarly, bisexual individuals had a significant decrease in Collective Self Esteem comparing to other minority identities (Gray & Desmarais, 2014) as well as experiencing self-stigma more than any other minority (Herek et al., 2009).

Degrees of Self-Esteem have been variously related to internet use as well with minority group affiliation, this research explores whether there is any support for the above literature.

Internalized Homophobia / Stigma

Meyer (2013) defines Minority Stress as the excessive stress a person from a socially stigmatised category feels, or is exposed to, resulting from their minority position. Subjective conflict is likely, as the dominant cultural norms are incongruent with that minority status. This identity is related to varying stress processes including internalizing stigma. Sexual Stigma is a broad term that generally refers to a societal collection of negative attitudes and regard toward any person of non-heterosexual orientation; in which the belief that homosexual identity and behaviour are inferior or devalued can be propagated institutionally or through ideological systems (Herek et al., 2009. p.33). Society's shared reaction to minority sexuality can manifest itself overtly or covertly, furthermore it is assumed as LGBT+ people are raised learning about sexual stigma within the same early socialization processes as heterosexual people, hence they too are capable internalizing homophobic attitudes into their own enduring value system (Hetrick & Martin, 1984; Herek, Cogan, Gillis & Glunt, 1998; Herek, Gillis & Cogan, 2009; Meyer, 2013). Thus Internalized Homophobia is a process unique to sexual minorities which is related deleterious effects on mental health (Feinstein, Goldfried & Davila, 2012; Frost, Lehavot & Meyer, 2013; Pachankis, Rendina, Restar, Ventuneac, Grov & Parsons, 2014).

Sociocultural stigma toward minority status is seen as a distal stressor, yet self-appraisals through internalized homophobia make this stressor more proximal to the individual in the absence of external events, even for people whose status is completely concealed (Meyer, 2013). Prior literature suggests that high rates of Internalized Homophobia (IHP) are associated with lower self-esteem, lower mental health and lower disclosure in gay men (Herek et al., 1998) whereas bisexuals had a significantly higher median score in IHP than homosexuals. Scores were significantly different between the two, though a limitation in this study is found in the relatively low number of bisexuals samples comparing to homosexual samples for whom the final analyses was reserved for. While the this median difference could not be explained, it may be related to double-discrimination that bisexual people experience from hetero and homosexual individuals referred to as 'Biphobia' (Ochs, 1996; Mulick & Wright, 2002).

IHP has been repeatedly associated with poorer relationship quality among Gay and Bisexual minorities (Frost & Meyer, 2009) as well as being negatively correlated with non-romantic friendships and social support from other LGB people. The higher IHP was rated, the lower support from friends, family and community was rated. Pachankis, Goldfried and Ramrattan (2008) found that gay men who did not disclose their orientation to their parents had significantly higher reports of IHP comparing to those that did disclose. Consistent with these findings, Internalized Homophobia was also significantly correlated with both compulsive Internet use, disrupted social connections between family and friends, low outness, and anxiety (Herek et al., 1998; DeLonga, Torres, Kamen, Evans, Lee, Koopman & Gore-Felton, 2011; Pachankis et al., 2014) while higher Internalised Homophobia was a significant predictor of low self-esteem (Herek et al., 1998; Szymanski & Gupta, 2009).

Gay and Bisexual Men and Internet Use

Conventional ideas surrounding the usage of Online Dating and its more recent extension in Mobile Dating Applications (Apps) highlight assumptions that all users innately have defined goals, however unexpected intents may develop sometime after initially signing up. Additional motivations and sought gratifications that have been obtained through online media have included escapism, relaxation, arousal and enhancing personal identity (Miller, 2015a). In a study conducted by Baams (2011), which analysed the content and disclosed motivations behind individuals subscribing to 'Same Sex Attracted' online communities, it was found that Younger individuals were rated higher for utilizing these communities for seeking and receiving social support comparing to an Older cohort who primarily sought sexual contacts and non-committed engagement.

These findings are consistent with data gained by Goedel and Duncan (2015) who observed that younger MSM depended more on both online and offline social-based organizations to facilitate normative learning amongst an MSM cohort. However the less offline organisations were available, the higher use of Social Networking Apps that enable Global Positioning Systems (GPS) increased.

High levels of in-group identification were shown to increase the likelihood of individuals perceiving discrimination (Major & O'Brien, 2005; Hatzenbueler, 2009). Conscious, yet otherwise publically undisclosed, identification with a minority group does not mean a public integration with whole identity or self-concept, only that a perceived, undisclosed and otherwise distal affiliation exists. Fear of discrimination based on sexual orientation may influence levels of concealment; this suggests a social function to concealment as hypothesized by Bugental et al. (1968).

It has been recognized through meta-analyses that men who statistically concealed more regarding their sexuality had a higher preference rating for Online Dating websites compared to samples of men who were significantly less concealed and did openly identify as

either minority (Groo, Hirshfield, Remien, Humberstone and Chiasson, 2013). Geosocial Networking applications, on smartphones and more internet enabled devices, allow users to moderate their optimal level of disclosure. Personal anonymity as an accepted agency of information both in virtual and physical 'queer space' may be a beneficial norm for closeted men or individuals who are reluctant in publicly identifying with LGBT+ (Miller, 2015a). Similarly, Gay-specific Apps can be seen as a modern continuity of homosexual socializing infrastructure (Race, 2015) that afford users to explore subculture communities without integrating to them offline; anonymity allows for an individual to tailor a version of their 'gay identity' (Roth, 2014).

An example of what Meidlinger and Hope (2014) defined as functional independency between Concealment and Disclosure can be observed in this online modality; a minimal level of non-verbal disclosure concerning user's sexual orientation is given by default when they avail of a mobile app marketed for gay men. In some cases the need to identify and the potential gamble in ascertaining another person's sexuality has been considered somewhat obsolete (Miller, 2015a. p.481). Yet stratified concealment of additional personal information including their physical appearance, name, age and location may be continued.

Qualitative analysis conducted by Gudelunas (2012) reported that sexual minorities who perceive they could encounter discrimination offline may safely connect to others with shared beliefs and values through an online medium. Additionally, participants reported high use of online media, such as gay-specific forums, social networks and news sites, while only 85% explicitly disclosed their orientations and status on their personal profiles. Other participants implemented strict concealing methods through privacy settings. Yet the level of disclosure and concealment for the same users could easily vary on an individual's profile across different websites and Apps. The alternating degree of anonymity depended on the perceived level of environmental hospitability, furthermore offering the user a sense of control both in their safety and the wish to not be recognized (Gudelunas, 2012)

Mobile Dating Application Use

While gay men and women have rated higher in online social activity than heterosexual counterparts (Miller, 2015b. p.638) another report found that ratio of men to women using Mobile Dating Apps for smartphones was 4:1 (Quiroz, 2013).

Previous research has indicated negative relationships between Self-Esteem and a preference for electronic interpersonal relations (Lee & Cheung, 2014), GPS enabled Mobile Dating Apps are by their design intended to serve as an antecedent platform for meeting or eventually establishing some form of relationship face-to-face

While some critics challenge the assumption that face-to-face interaction is the final goal (Tziallas, 2015), it is by no means axiomatic that dominant goal these gay-specific Apps are limited to either 'Hooking Up' or romantic partnership as pre-elective options including 'Chat Only' and 'Networking' are available across various App services to distinguish intended use. Transparent user intentions are often encouraged for partner-seeking optimisation and time management, though an equal tolerance for user discretion is also facilitated (Miller, 2015a).

The user-directed purposes of the App are multifunctional. All types of encounters - be they sexual, platonic or strictly electronic - can be initiated through them. As a result, these apps much like their website predecessors may be simultaneously referred to as a social networks, online personals, dating sites, cruising or hook-up apps (Cassidy. 2013. p.79; Forrest, Stevenson, Rich, Michelow, Pai, Jollimore, & Roth, 2014; Bhattacharya, S. 2015). Goedel and Duncan (2015) found that the 18.5% of users reported availing of the app in order to alleviate boredom. However because Mobile Dating Apps marketed for males-seeking-males are both predominantly used for sexual encounters (Goedel & Duncan, 2015) and understood by the public as such, users can be sensitive about their self-presentation on these Apps (Licoppe, Rivière & Morel, 2015). Specifically because these Apps are GPS enabled, the ability to be detected through your location and identified by the public and

private/explicit media one shares may create anxieties for sexual minority user's residing in areas governed by anti-LGBT legislation (Francey, 2012; Culzac, 2014; McElroy, 2015).

Miller (2015b) has found that the majority of users of a gay-specific Mobile Dating App (78%) had profiles pictures in which their full face was clearly visible. It is speculated that the remaining 22% of users who had a faceless or non-existent profile picture may overlap with a percentage of App users who are publicly closeted. No control was established to distinguish this possible category from 'out' men who choose to conceal their visual appearance.

Conclusions and Rationale for the current study

Evidence from the above studies offers justification for measuring Disclosure and Concealment as related yet separate subscales of Outness without conflating the two.

Gay and Bisexual people, including 'Men who have sex with men' (MSM) have also been regularly consolidated into a singular non-heterosexual variable even in contemporary studies, notwithstanding evidence suggesting significant differences exist between them. For example, Bisexual men demonstrate higher risks of decreasing levels of mental health (Schrimshaw et al., 2013. p142). In the present study, Gay and Bisexual will be treated as two variably distinct categories of Sexual Orientation for the purposes of comparison through a between groups analysis.

Research Hypothesis 1: There will be significant differences between Sexual Orientation and levels of Disclosure and Concealment.

Research Hypothesis 2: There will be significant differences between Sexual Orientation and levels of Self Esteem and General Psychological Health.

The above literature suggests that online queer space may be used by Highly Concealed minorities while Low Self-Esteem has also been related to higher internet use (Mikyong, Kwon & Lee, 2009; Roth 2014). This research aims to verify whether both these variables are observed within App Use.

Research Hypothesis 3: It is predicted that participants with Higher Concealment and Lower Self-Esteem will be associated with Mobile Dating Application use.

A majority of the previous studies has primarily focused on the role of Internalised Homophobia within Risk-Taking and HIV/AIDS-status while showing continuously equivocal results (Williamson, 2000). Similarly, literature surrounding Mobile Dating App Use has involved psychological influences, such as stigma, that preclude disclosure of HIV-status on these Apps (Landovitz, Tsend, Weissman, Haymer, Mendenhall, Rogers & Shoptaw, 2013; Ramallo, Kidder, Albritton, Blick, Pachankis, Grandeleski, & Kershaw, 2015). Previous literature regarding the wide variability range of online anonymity within Gay and Bisexual samples has proven tenuous and could not posit substantial inferential value. The current study aims to extend/open the literature of IHP more generally toward Gay and Bisexual men's general mental health, outness, their attitudes toward their orientation - irrespective of HIV/AIDS-status - and whether they play a significant role in App Use.

Research Hypothesis 4: It is predicted an interaction between Outness on App Use significantly influences Internalised Homophobia score.

Research Hypothesis 5: It is predicted there will be a significant difference in Internalised Homophobia between Gay and Bisexual Men.

Research Hypothesis 6: It is predicted that Self-Esteem, Outness, Internalised Homophobia, Sexual Orientation and App Use will contribute to General Psychological Health

Facial disclosure, or ‘full-face profile pictures’ are significant negotiation tools within gay-specific Mobile Dating App interactions (Woo, 2013. p.12; Fitzpatrick, Birnholtz & Brubaker, 2015). A user's genuine face picture is said to represent a personal disclosure due to its uniqueness which provides detail rendering the person identifiable, both positively and negatively. Users have stated that face pictures connote honesty and that blank profiles may signify someone who is discreet or “not out” (Blackwell, Birnholtz & Abbot, 2014 p.1127). Fitzpatrick et al., (2015) examined the disclosure patterns related to user sharing behaviour and found that among those less likely to disclose a face picture were older users while Baams (2011) found that older users of traditional online same-sex communities were more likely to seek non-committed sexual encounters.

Research Hypothesis 7: it is predicted there is a significant difference in Outness between App Users with a Face Picture and Users without a Face Picture.

Research Hypothesis 8: It is predicted that app users who upload Face Pictures and app users who select Hook-Up will significantly differ in age compared to users who don't.

Method

Sample Selection

Non-probability sampling techniques were employed. Purposive sampling was used to acquire participation from a target population consisting of two pre-existing subgroups; Gay and Bisexual males with a minimum age of 18. A link to the research survey and a detailed cover sheet was posted to several online communities, social networks sites and discussion forums. These included gaire.com, groups on Facebook, and various ‘subreddits’ from reddit.com which were specifically catered for homosexual and bisexual users (Appendix 1.0). Snowball and Convenience sampling were additionally used as participants were encouraged to pass on the survey link to other eligible candidates in addition to the researcher sending the survey link to target colleagues, friends and associates. Local LGBT communities such as Dublin Gay Man’s Chorus and Gloria were contacted and emailed a copy of the link to pass on to eligible members. Finally Self-Selecting sampling was used; as each survey description page outlined that the inclusion criteria stated that the survey required participants who identified as Male (Appendix 2.0, Footnote). Participant amount was informed through *a priori* power calculation using Cohen’s table (Cohen, 1992). A minimum of 100 participants was required allowing equal variation across Sexualities. This included 12 people per group necessities for a MANOVA.

Participants

Individual survey responses (n=698) were gathered between the 15th and 18th of December 2015. Of the total participants, 56.3% selected their orientation as Homosexual/Gay (n=396) while 40.7% selected Bisexual (n=282). The remaining 3% of participants selected ‘Other’ and labelled their orientations as Pansexual (n=14), Straight (n=1), Queer/Bisexual (n=1), Queer (n=1), Both (n=1), Polysexual (n=1) and Bi-curious (n=1). As the survey was posted to the internet, data consists of an international sample. The

age ranged from 18-66 ($M = 25.23$, $SD = 6.94$). Initially 707 individuals responded to the survey. Nine participant's data were omitted from the final analysis as they were under the age of 18.

Design

The full research is a Mixed Method Design consisting of Quantitative, Qualitative and quasi-experimental components. Sexual Orientation will be primarily broken down into between-group Independent Variables (IV) for HP1, HP2 and HP5 during Quantitative analysis of the survey data.

For HP1, Disclosure and Concealment are both Dependent Variables (DV). In HP2 Self-Esteem and General Mental Health are both DVs. With HP3, a chi-square test is conducted; therefore High Concealment, Low Self-Esteem and Mobile Dating App Use are IV for their respective analyses. HP4 will treat Binary Outness and App Use as IV and Internalised Homophobia as DV. In HP6 quantitative data analysis will also be used where General Mental Health is the Criterion variable. Predictor variables are Total Outness, Internalised Homophobia, Sexual Orientation and App Use. In HP5, the DV is Internalised Homophobia. In HP7, App Use (IV) will be treated as between-groups with Outness Degree as DV. HP8 Both Hook-Up Users and Face Picture Groups (IV) will be separately treated as between-groups with Age as a DV for both.

A full conclusion with three research questions was devised for inclusion in this study for examination (See Appendix 1.1). Due to the word count restrictions on the thesis submission, the collected qualitative data will not be analysed in the present paper. A full six-phase thematic analysis (Braun and Clarke, 2006) will be conducted on the qualitative data after submission of this thesis, with co-authorship of the Research Supervisor.

Measures

Binary Outness. Single Item question, participants select either (*Yes*) or (*No*) to whether they consider themselves out about their sexuality

Outness Degrees Scale (Panchankias et al., 2008). Participants select their outness, a single item, 7-point Likert type scale ranging from 1 (*my sexual orientation is completely hidden from others*), to 4 (*my sexual orientation is not quite hidden but not quite open*), to 7 (*I am completely open with others about sexual orientation*). These descriptions are consistent with Meidlinger and Hope's (2014) definition for Outness as 'openness about one's sexuality'. A Cronbach's alpha was not established in their study.

Reasons for App Use (Goedel and Duncan, 2015). Alterations from the original measure include changing the pronouns 'gay and bisexual men' to 'people' in an attempt to increase preference inclusivity. Following this logic, additional Reasons were included such as (*I just want to chat to like-minded people*), (*None of the above*) and (*Other*) which provided space for participants to include their unique reasons. Finally, option (*I want to meet other people to have sex with*) was suffixed with (*No Strings Attached, Hook-up*) in order to delimit the context of 'sex' specifically to a hook-up (Appendix 2.1, Footnote). Current and Previous App Use was assessed across two singular items.

Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965). A ten item Likert-type scale ranging over four points from 3 (*Strongly Agree*) to 0 (*Strongly Disagree*). Questions 3, 5, 8, 9, and 10 are reverse scored. Scores below a sum of 15 are suggested to predict low self-esteem, which a range from 15 – 25 is considered normal. Due to the varying frame of Self-Esteem, using the RSES in the present study is justified by its predictive value and empirical sensitivity to Global Self-Esteem (Pierce, Gardner, Cummings & Dunham, 1989).

Nebraska Outness Scale (NOS) (Meidlinger & Hope 2014) a ten item scale consisting of two 5 item subscales for Disclosure (NOS-D) and Concealment (NOS-C). Responses were ranged on an 11-point Likert scale for both; NOS-D asks “What percent of the people in these groups do you think are aware of your sexual orientation?” Percentages for separate group responses are given with 0% (*'None' or 'Nobody at all'*) to 100% (*'All' or 'Everyone'*).

The responses of the NOS-C subscale were modified slight from the original design in order to closely match the NOS-D scale’s appearance. Originally, responses ranged from 0 (“*Never avoid*”) to 10 (“*Always avoid*”) with the midpoint of 5 (*'Half the time'*) however intermittent options between these points were neither descriptively nor numerically defined and a concern was that the scale would be interpreted as a 3 point scale as it was not obvious that these points in between were selectable.

To counter this, response points were defined as 0% (*'Never'*), 5% (*'Half the Time'*) and 10% (*'Always'*) while the remaining points were labelled in increments of 10 per cent (Appendix 2.3). Higher computed mean scores across both scales indicate higher instances of Disclosure and Concealment. Scoring of the Full NOS scale is achieved through reversing NOS-C scores, computing means with NOS-D scores.

Revised Internalised Homophobia Scale (IHP-R) (Herek et al. 2009) A nine item Likert-type scale with 5 response points ranging from 1(*Strongly Disagree*), 3(*Neither disagree nor agree*) to 5(*Strongly Agree*). Alternate wording in the IHP-R has been previous used to delineate a Male and Female version of the scale, for example (*I wish I weren't gay/bisexual*) with *gay* being replaced by *lesbian* (for full alterations, see Appendix 2.4, Footnote). Responses are summed then divided by the full number of items, with each item valued congruently by their increments of 1 to 5. Thus higher mean scores indicate higher negative self-attitudes (Herek et al. 2009).

General Health Questionnaire (GHQ-12) (Goldberg, 1992) a twelve item Likert-type scale. It is a self-report questionnaire used to detect non-psychotic psychiatric disorders within a non-clinical setting, it can also be applied for measuring general psychological health across different settings (Molina, Rodrigo, Losilla & Vives, 2014). Responses are given on a 4-point scale including (*'less than usual'*), (*'no more than usual'*), (*'rather more than usual'*) and (*'much more than usual'*). Because the wording for each response can vary depending on the question, in each item a respondent's current mental state is assessed in the GHQ-12 by asking if they are recently experiencing symptoms differing from their usual mental state. Likert scoring will be used; in this case responses are scored 0, 1, 2, and 3 respectively throughout the scale, lower scores indicate better psychological health, higher scores indicate worse psychological health.

In addition to the above measures, a Google Forms account was required by the researcher for its construction. The survey could be accessed for all participants without a Google account. Permission from forum moderators was granted prior to posting the link. Ethical Approval to conduct the research project and collecting data from participants was granted from Dublin Business School College Human Research Ethics Committee.

Procedure

The online survey was constructed through Google Forms. By following the link provided on several forums, participants brought to a coversheet which explained; the nature of the survey, how the research was conducive to the researcher's examination and undergraduate degree, the inclusion criteria required and how the data they submitted would be completely anonymous. Information on the risks or discomforts they may encounter was also provided. Before continuing to the survey participants were then asked to give their informed consent. Participation was volition of personal interest; no monetary or course credit incentive was given. All participants were asked to fill out Questions 1 to 8. For Question 9 which asked (*'Do you currently have a profile on a Mobile Dating App?'*) the following skip requirements were employed;

- Participants who selected 'No' would continue to Question 10 and were asked if they had previously signed up for Online Dating or a Mobile App.
- If participants selected 'No' again, they would skip to Question 15.
- Participants who answered yes for both Question 9 and 10 would answer Questions 11 to 14.

All participants would answer Questions 15 to 19 which consisted of the RSES, NOS-D, NOS-C, IHP-R and GHQ-12 respectively. In the following section, participants were told that the main surveys was now complete and were given the option to either finish now or to continue by answering 5 short answer questions (Appendix 2.6). Participants were required to select their choice by selecting on of two options in Question 20;

- Those who selected 'I wish to end Survey now' were re-directed to the final debrief page.
- Those who selected 'I wish to answer more questions' would continue to the Qualitative Component of the Survey.

In the Qualitative Component, short-answer questions were provided (Appendix 3.0), respondents were instructed to write as little or as much detail as they wished, to skip any questions not relevant to them and were also reminded that answers were completely anonymous. By concluding all conditions of the survey, all participants were shown a debriefing page which explained what was measured as well as providing contact information to support services in the event of feeling distressed by the survey content (Appendix 3.1)

Results

Descriptive Statistics

Forty-two differing nationalities took part; American ($n = 434$), Canadian ($n = 60$), Irish ($n = 48$), British ($n = 36$) and Australian ($n = 24$). The remaining thirty-seven nationalities each were $n < 8$. Figure 1 illustrates the percentages of participants who were currently using Dating Apps and participants who were not currently using Dating Apps but had previously used Online Dating or Apps. The most frequent reasons for using Mobile Dating apps ranged from Meeting other people to date (59.3%), Finding a boyfriend or romantic partner (54.4%), Meeting other people to have Sex/Hook Up (52.9%), Wanting to Kill Time when Bored (46.7%), Wanting to make friends with other people (45.6%), Chatting with like-minded people (32.9%), Networking (8.7%), Other (4.8%). The majority of Dating App Users had uploaded a picture in which their face was clearly visible; this is represented in Figure 2.

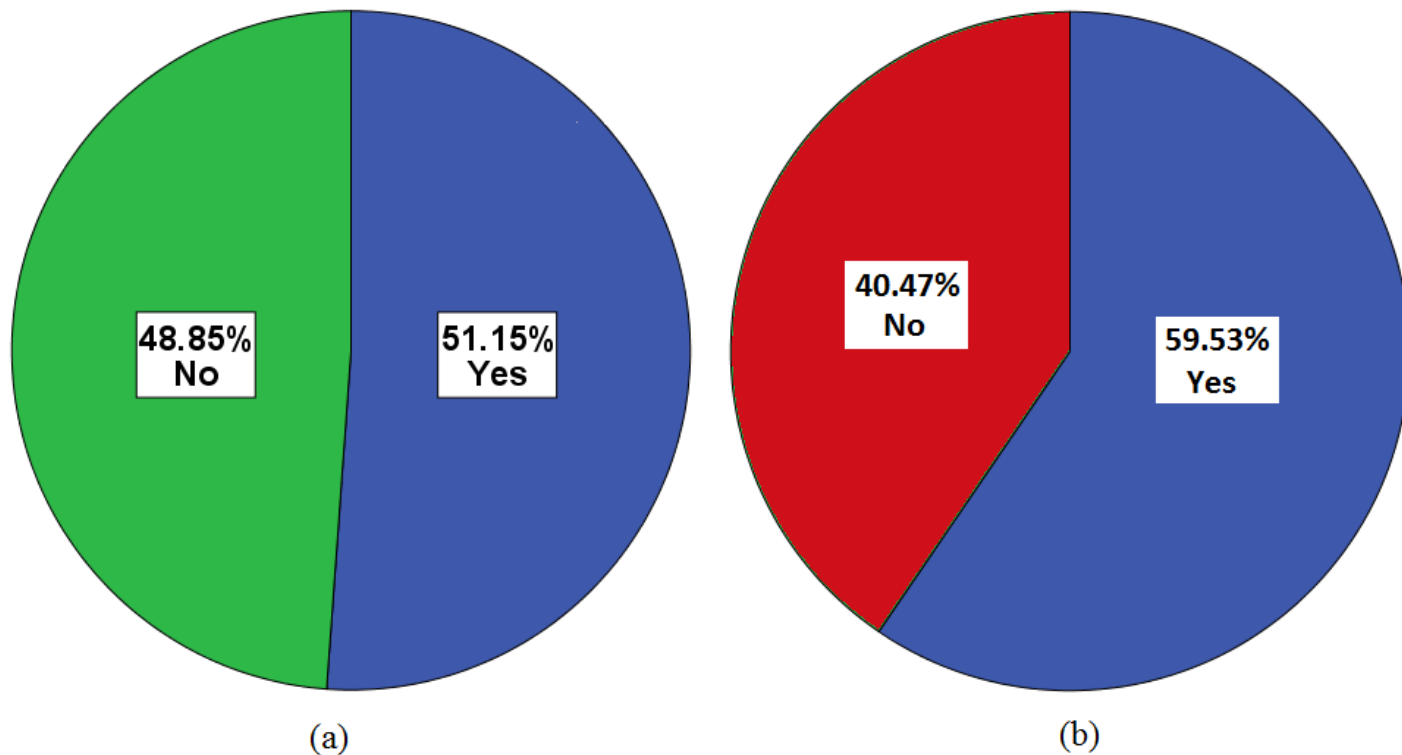


Figure 1. Pie Chart (a) Current Mobile Dating Application Use; Yes ($n = 357$), No ($n = 341$). (b) Previous Online Dating / Application Use; Yes ($n = 203$), No ($n = 138$).

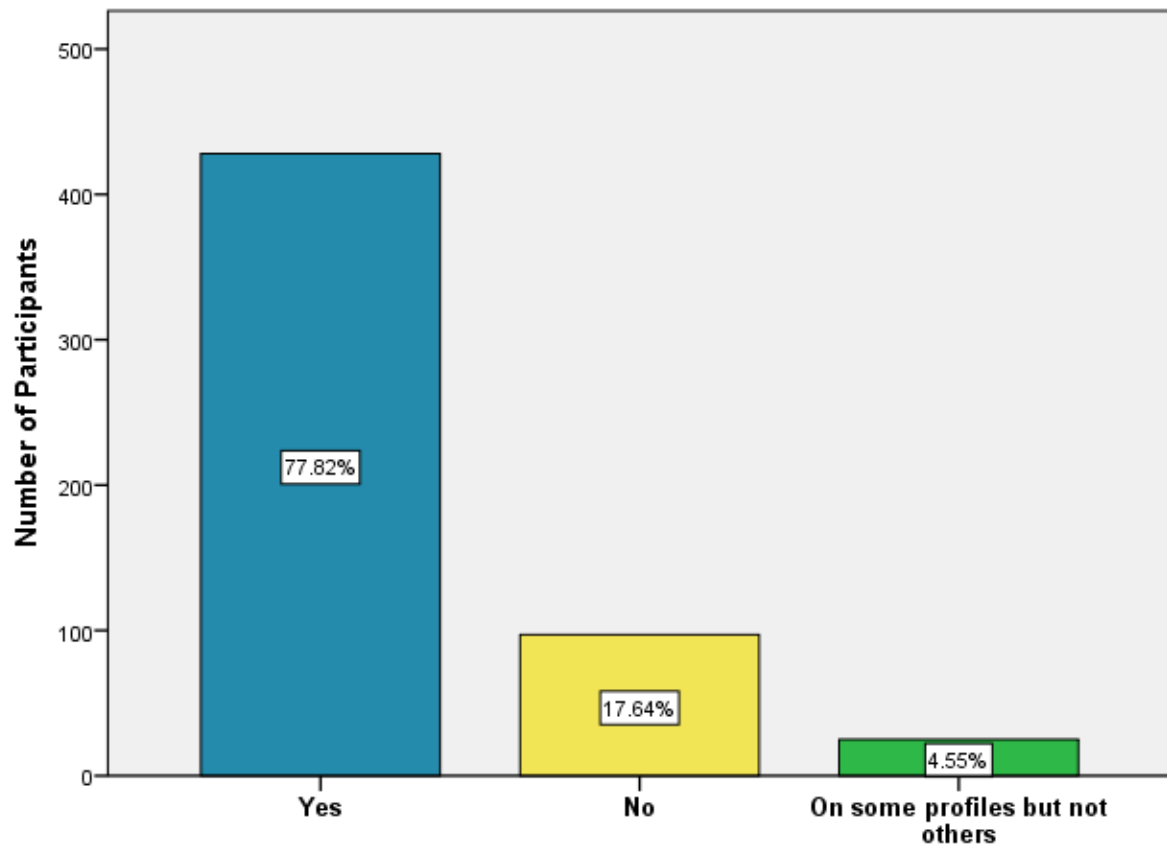


Figure 2. Bar Chart of Visible Face Picture groups. Yes ($n = 428$), No ($n = 194$), On some profiles but not others ($n = 75$).

Responses for Qualitative Question 4 (Appendix 3.1, Q4) were converted and coded into numerical data. The levels of response in Figure 3 are an estimation of scores. Table 1 shows the average scores for the primary psychometric variables measured; these statistics represent full participant response. Figure 4 illustrates the difference in score outcomes for Outness when selected through Nominal and Scale Measures.

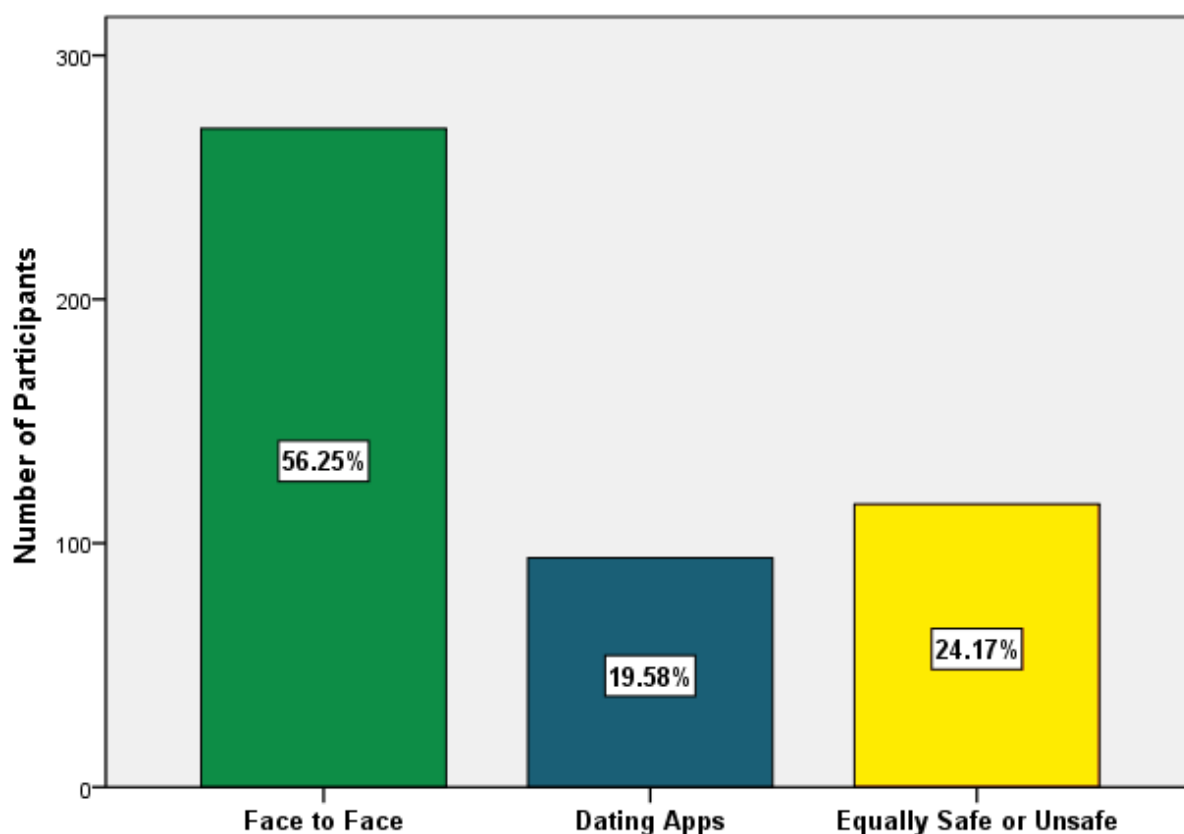
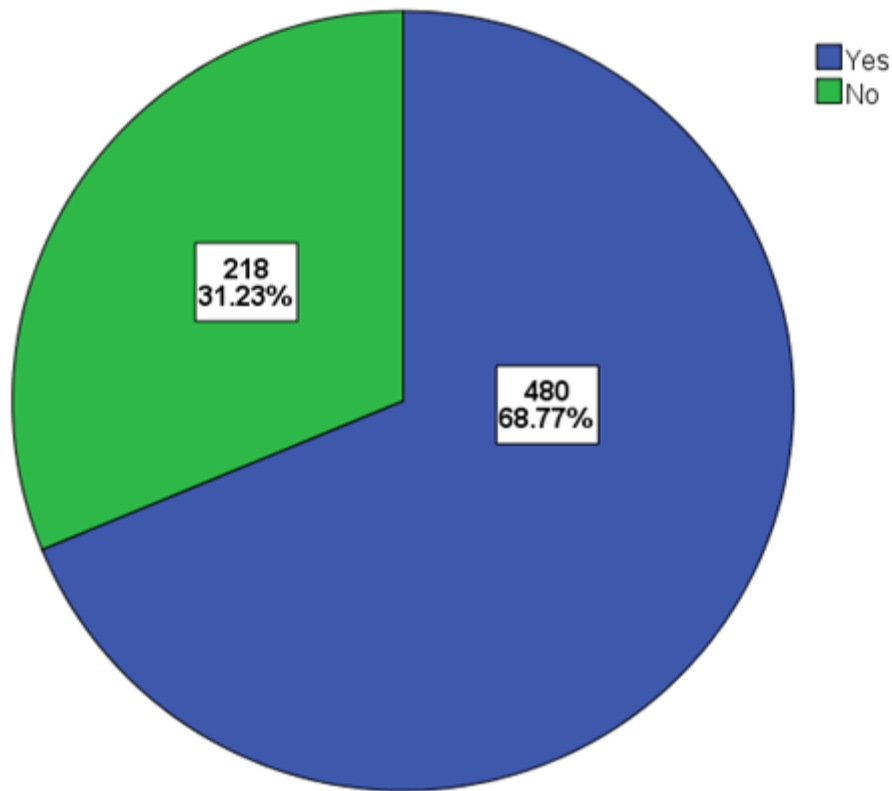


Figure 3. Bar Chart. Approximate percentage and number of responses when asking participants which mode was safer for meeting new people.

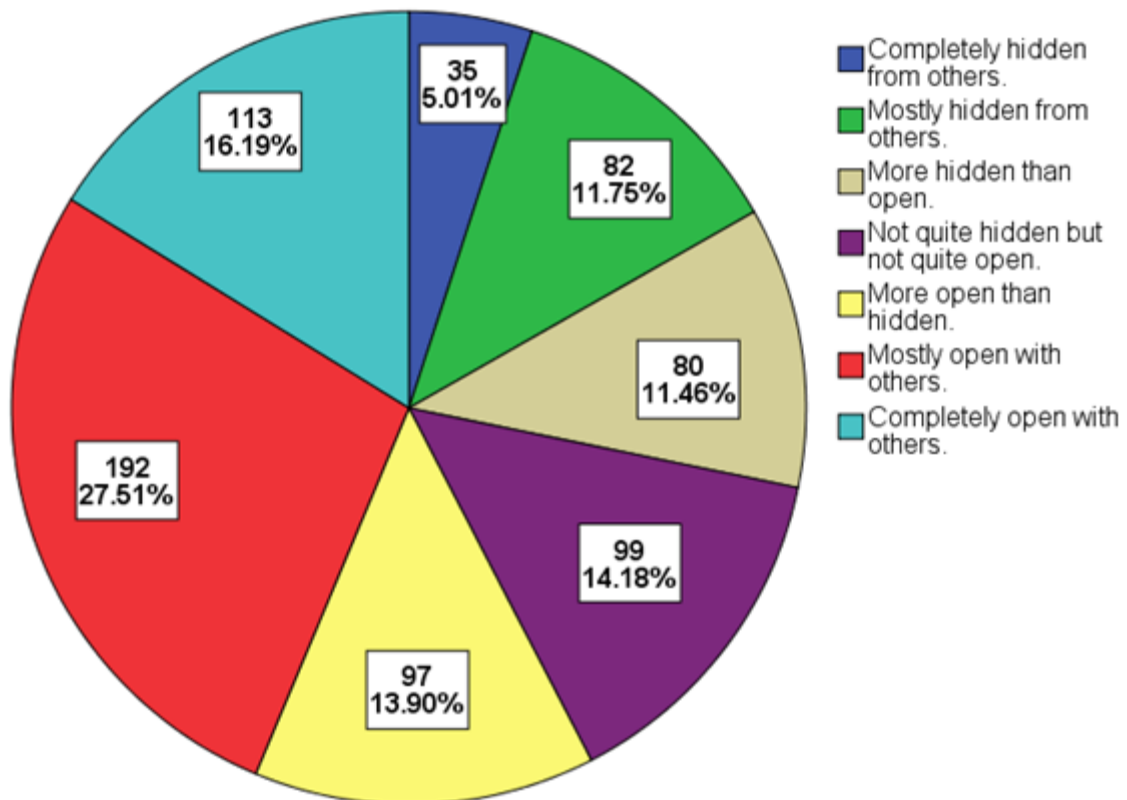
Table 1.

Descriptive Statistics Mean and Standard Deviation scores for Psychometric Measures with all participants.

	Number	Mean		
		Statistic	Std. Error	Std. Deviation
Self Esteem	698	19.15	.24	6.23
Internalised Homophobia	698	1.75	.028	.73
Psychological Health	698	13.57	.25	6.70
Concealment	698	4.24	.11	2.99
Disclosure	698	4.24	.11	2.83
Total Outness	698	5.00	.09	2.40
Valid N	698			



(a) Binary Outness



(b) Outness Degree

Figure 4. Pie Chart (a) Do you consider yourself "Out" about your sexuality?
 (b) What degree do you feel Out to others about your sexual orientation?

Inferential Statistics

Hypothesis 1; A one-way multivariate ANOVA found a statistically significant difference in levels of Outness between Gay and Bisexual men ($F(2, 675) = 98.99, p < .001$, effect size = .23). Separate follow-up univariate ANOVA's on Outness component variables revealed a significant difference for Disclosure ($F(1, 676) = 160.36, p < .001$, effect size = .19) with Gay men ($M = 5.29, SD = 2.60$) reporting higher levels of Disclosure than Bisexual men ($M = 2.80, SD = 2.40$). However, there was no significant difference for the Sexual Orientation groups on Concealment ($F(1, 676) = .19, p = .193$, effect size = .00). Figure 5 highlights the distribution of Disclosure Scores; Std. Error of Skewness (Z_{g1}) was between -2 and +2 for both Bisexual and Gay Male samples; directional skewness of the whole population is inconclusive, population may be skewed in either direction (Cramer, 1997).

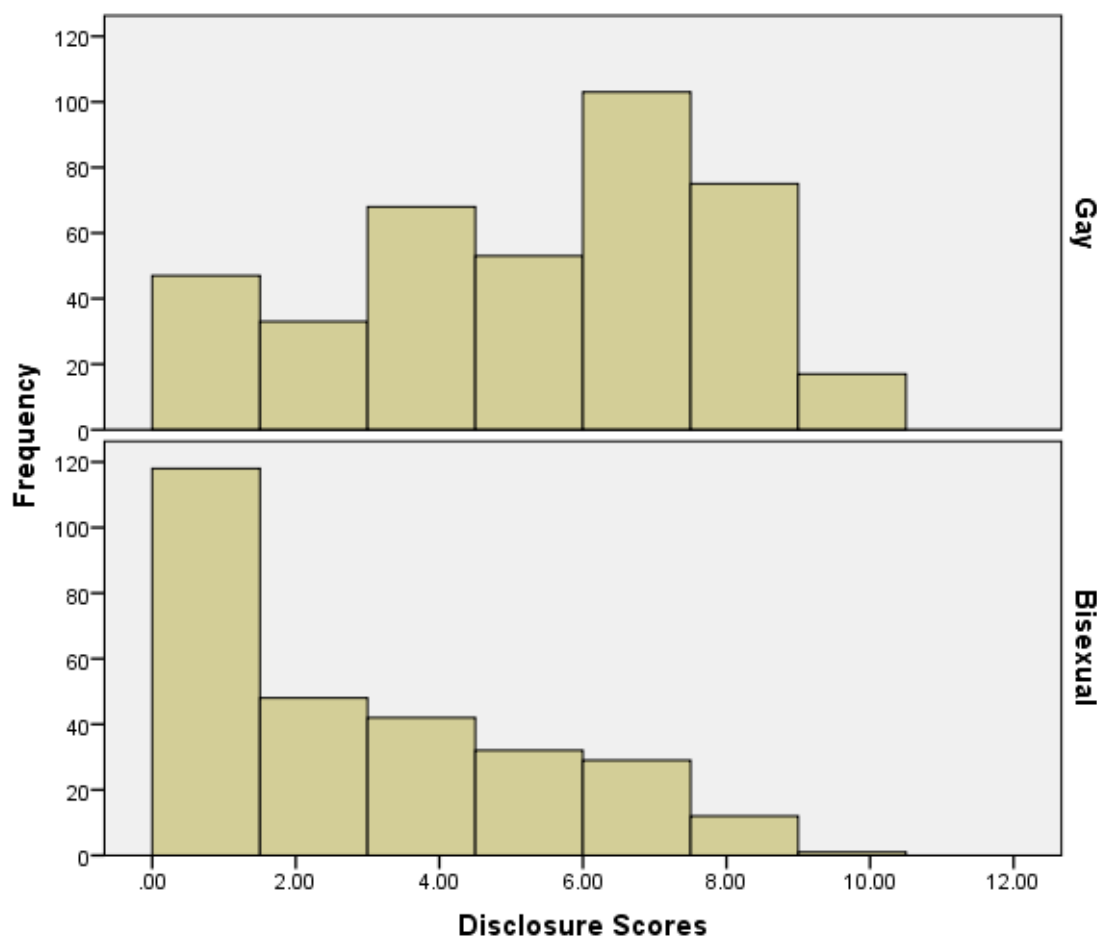


Figure 5. Histogram displaying asymmetrical Disclosure score differences between Gay Men (Skewness = -.403, SES = .123) and Bisexual Men (Skewness = .691, SES = .145)

Hypothesis 2; a one-way multivariate ANOVA found that there was no statistically significant difference in levels of Self-Esteem and General Mental Health between Gay and Bisexual men ($F(2, 676) = .159, p = .853, \text{effect size} = .00$).

For Hypothesis 3, a median split was performed on Self-Esteem ($Mdn = 19.00$) and Concealment ($Mdn = 4.20$); participants below this score on self-esteem were labelled as the Low group, while scores higher than the median in Concealment were labelled the High group. A Pearson Chi-square test for association found that there was no significant relationship between the variables Low Self-Esteem and Mobile Dating App Use ($\chi^2(1, N=698) = .208, p = .648$). An additional Pearson Chi-square test also found that there was no significant relationship between the variables High Concealment and Mobile Dating App Use ($\chi^2(1, N=698) = .003, p = .953$). The null hypothesis is accepted in both cases.

In testing Hypothesis 4, a two-way between groups ANOVA examined the role of Mobile Dating App Use and Outness on levels of Internalised Homophobia and found no significant interaction effect ($F(1, 694) = .056, p = .813$). However a main effect was reported for Binary Outness ($F(1, 694) = 110.01, p < .001$) with a small effect size (.14). No main effects were reported for Mobile Dating App Use ($F(1, 694) = 2.25, p = .134$). Figure 6 shows the main effect for Outness.

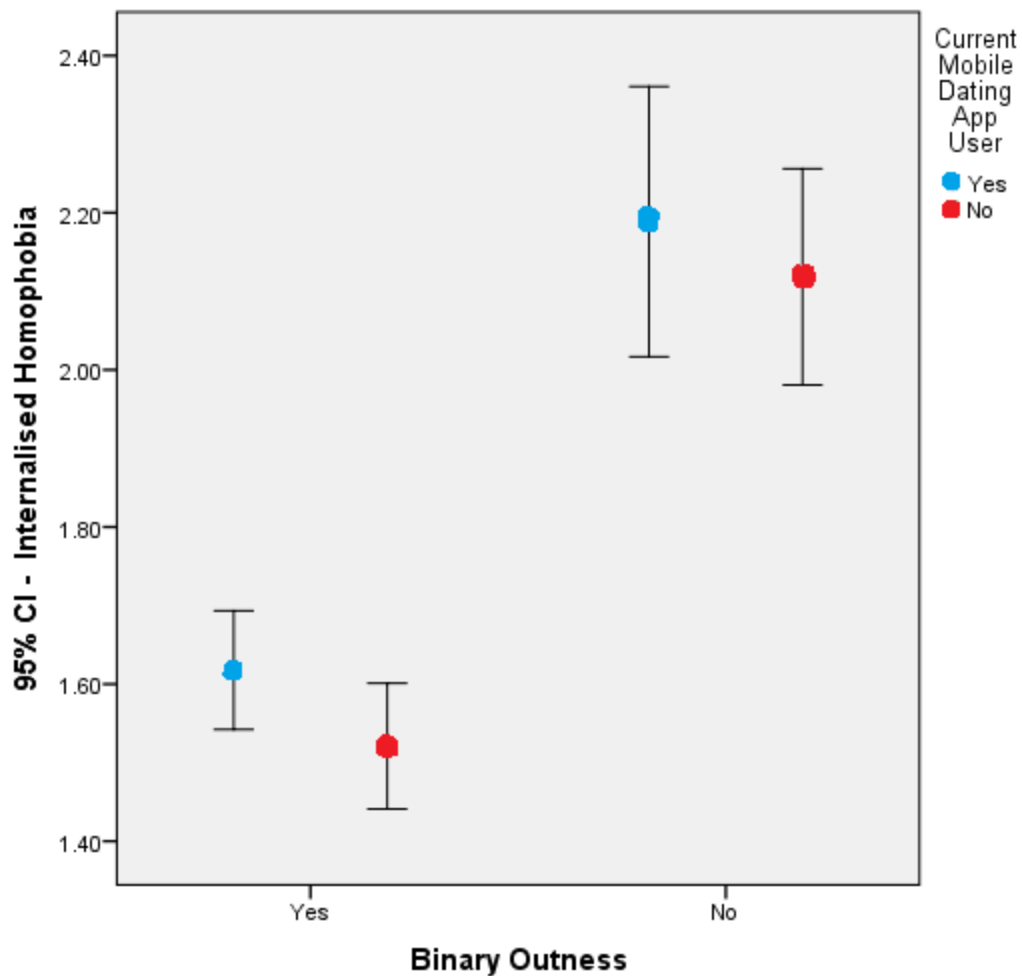


Figure 6. *Errorbar Chat. No differences in Mobile Dating Application Usage. Non-Out scores contributed more to Internalised Homophobia.*

Hypothesis 5; a one-way analysis of variance showed that the number of errors in Internalised Homophobia differed significantly between the three Sexual Orientation Categories ($F(2, 697) = 11.93, p < .001$). More specifically Tukey HSD post hoc analyses highlighted that Bisexual Men ($M = 1.91, SD = .80$) scored significantly higher on Internalised Homophobia than the Gay Men ($M = 1.70, SD = .66, p < .001$) and the Other Orientation Classification ($M = 1.50, SD = .58, p = .04$). Extreme caution must be taken when reading this result as the Other ($n = 20$), Tukey HSD post-hoc analysis confirms that group homogeneity is not significant ($p = .150$). Type I error levels are not guaranteed.

Hypothesis 6; a Multiple Regression was used to test whether Self Esteem, Total Outness, Internalised Homophobia, Sexual Orientation and Mobile Dating App Use were predictors of General Mental Health. The results of the regression indicated that five predictors explained 41% of the variance ($R^2 = .41$, $F(5, 672) = 95.52$, $p < .001$). It was found that only Self-Esteem significantly predicted General Psychological Health ($\beta = -.61$, $p < .001$, 95% CI = $-.72$ to $-.59$). Figure 7 illustrates a moderate relationship between Self-Esteem and Psychological Health.

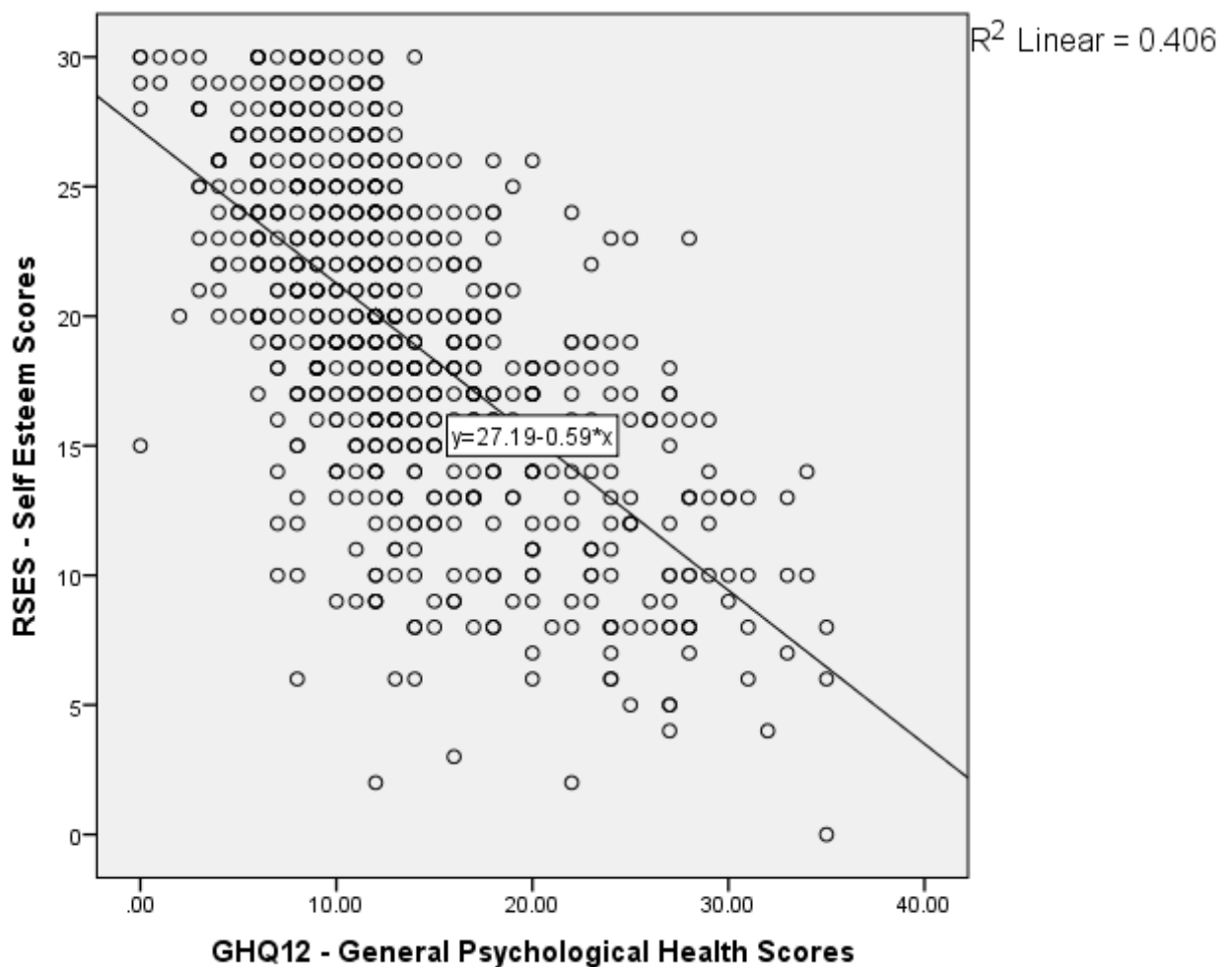


Figure 7: Scatter Plot. As Self Esteem decreases, Psychological Health also decreases.

Research Hypothesis 7; For analysing scale data, an independent samples t-test found that there was a statistically significant difference in Outness Degree between App Users with Visible Face Pictures ($M = 5.22$, $SD = 1.56$) and Non Face Pictures ($M = 3.27$, $SD = 1.74$) ($t(113.42) = 10.20$, $p < .001$, $CI(95\%) 1.58 - 2.33$). For analysing nominal Outness data, a Chi-Square test of association showed there was a moderate positive significant association between Binary Outness and whether or not App Users uploaded a Visible Face Picture ($X^2(1, n=525) = 75.15$, $p < .001$). The null hypothesis is rejected. An odds ratio calculation showed that if a person was Out the odds of them uploading a visible face picture was 7.23 times higher than if they were not out (Equation; $345 \div 36 = 9.83$, $83 \div 61 = 1.36$, $9.83 \div 1.36 = 7.23$) Table 2 demonstrates the origin of the numbers for this equation.

Table 2.
Crosstabulation of differences between Visible Face Picture and Binary Outness

Variables		Binary Outness				
		Yes	No	Total		
Visible Face Picture	Yes	Count	345	83	428	
		Expected Count	310.6	117.4	428.0	
		% within Face Picture	80.6%	19.4%	100.0%	
		% within Binary Outness	90.6%	57.6%	81.5%	
		% of Total	65.7%	15.8%	81.5%	
		No	Count	36	61	97
			Expected Count	70.4	26.6	97.0
			% within Face Picture	37.1%	62.9%	100.0%
			% within Binary Outness	9.4%	42.4%	18.5%
			% of Total	6.9%	11.6%	18.5%
Total		Count	381	144	525	
		Expected Count	381.0	144.0	525.0	
		% within Face Picture	72.6%	27.4%	100.0%	
		% within Binary Outness	100.0%	100.0%	100.0%	
		% of Total	72.6%	27.4%	100.0%	

Research Hypothesis 8; a one-way between groups analysis of variance showed that age did not significantly differ between the three Face Picture Groups ($F(2, 549) = 1.66, p = .191$). An independent samples t-test found that there was no significant difference between Age on Hook-Up Users and (M = 25.72, SD = 6.58) and Non Hook-Up Users (M = 25.49, SD = 7.04) ($t(557) = .388, p = .698, CI(95\%) -.909 - 1.355$). The null hypothesis is accepted in both cases.

Additional analysis consisted of reliability testing in the current sample for the following Psychometrics; RSES Cronbach's alpha $\alpha = .91$. For the NOS subscales, Cronbach's alpha was NOSD $\alpha = .86$, NOSC $\alpha = .86$. The current study reported a high correlation between IHP-R scores across orientation groups ($r_s > .84$) while Cronbach's alpha was $\alpha = .87$

Discussion

In this section, the descriptive statistics will be briefly discussed with greater elaboration of the inferential findings. Considerations for interpreting the current findings will be provided along with the limitations, strengths and practical implications of this research.

The present study was designed to explore Outness, Self-Esteem, Internalised Homophobia, General Psychological Health and Mobile Dating Application use in a Gay and Bisexual male sample. A core aim was to validate reported differences between Gay and Bisexual men in an attempt to counter methodology shortcomings within current LGBT+ themed Psychological research; in which dissimilar sexual orientations are conflated to a single group or category. Whether the above variables influence the emergence of disclosure and sexual relation behaviours within Mobile Dating Applications used by Gay and Bisexual men was also explored. The results of the data analysis do not hold consistently strong support for the research hypotheses informed by the literature cited in the introduction.

The findings in this study cannot be generalised to anyone nationality; however the link to the survey was hosted on websites where the English language is prominently used. Furthermore participants were also asked to give their current residence; with the exception of two single participants in India, none of the current locations have governmental anti-LGBT legislation (Gerber, 2013). At best, these findings may be representative of the Western, Industrialised and Democratic aspects of the WEIRD society model (Henrich, Heine, & Norenzayan, 2010). The percentages of App Users uploading a profile picture are extremely consistent with the findings of Miller (2015b) with the exception of an additional control group for user's who selectively uploaded a face picture to some dating application profiles but not on others. Reason for disclosing one's face on some application profiles and not on others could not be controlled for no interpreted in the statistical analysis alone,

forthcoming analysis into individual responses relating to the motivation for picture uploading will need to be conducted. While the Reasons for Using Mobile Dating Apps are inconsistent with Goedel and Duncan (2015) it should be noted that these findings reflect participants being allowed to select multiple choice responses and not singular fixed reasons (see Appendix 2.1, Footnote).

Before the inferential results can be discussed, the rationale for running parametric tests with non-normally disturbed data will be provided; the Central Limit Theorem states that when sample means (an average) are taken from a large amount of independently random variables (a sample size approaching infinity), the mean will be normally distributed in approximation to the true population mean (Lumley, Diehr, Emerson & Chen, 2002). As the sample size n was greater than 30 for all comparison groups within the sample data, the sample distribution is likely to be normal regardless of shape observed in the data output (Field, 2009. p156). It is also suggested that the significance scores within Multivariate Test Statistics may be trusted as conservative when large sample sizes produce greater covariance (Tabachnik & Fidell, 2007; Field 2009). For this reason Parametric test analysis was preserved in the current data analysis of all research hypotheses without transformation; in full knowledge that large sample size alone does not mean protection against confounding variables. Assumptions of both homogeneity with Orientation Groups and normality distribution of psychometric scores were violated so results will be interpreted with caution.

Analysis of data for Hypothesis 1 gives support for the findings of Meidlinger and Hope (2014) that bisexual men exhibit fewer instances of disclosure, likewise no differences were found between orientation groups on concealment. The Nebraska Outness Scale controls for disclosure in differing person-group settings; decreased disclosure in Bisexual men may relate expectation of biphobia from previous experiences. This finding may lend validity to the differences between both Gay and Bisexual people; however a general reason for less disclosure within this sample cannot be interpreted. Understanding this motivation or

whether it can give support for past negative experience with disclosure explaining this difference (Pachankis, 2007) will be done by analysing the accompanying qualitative responses.

In Research Hypothesis 2, Gay and Bisexual Men did not differ in their Psychological Health or Self Esteem Scores. This is inconsistent with previous findings of Schrimshaw et al. (2013) that Bisexual people exhibit higher risk of poorer mental health in addition experiencing lower self-esteem in comparison to other minorities (Gray & Desmarais, 2014). Purpose sampling from Online LGBT+ communities may explain equally high self-esteem between both Orientation groups; as noted previously, affiliation with a public minority group resulted in higher rating of SE (Pachankis, 2007; Hatzenbuehler, 2009). For example Members of *Dublin Gay Man's Choir* and *Gloria* may possibly have a higher rating of collective self-esteem; membership of a group relating to a stronger social identity (Turner, 1975). An attempt to counterbalance this potential confound was made by making the survey equally available through online forums that also cater to a population of non-heterosexual males who do not publicly disclose their orientation status offline; however the majority of self-esteem scores were still within normal range of 15 – 25 (Rosenberg, 1965) data was negatively skewed with only light to moderate tailing. Gay and Bisexual internet forums, through which the purposive sampling was availed, may have bolstered self-esteem.

This confound may also be responsible for the results from analysis of Research Hypothesis 3; Despite previous research indicating low self-esteem and high concealment being associated with excessive and problematic internet usage (Caplan, 2003; Lee & Cheung, 2014; Roth, 2014), the data in HP3 demonstrates that no association was found within this sample. Mobile Dating App users did not differ from non-users in levels of self-esteem. In total, 578 participants out of 698 had experience with electronic dating, this estimates to 82% of the total sample which may suggest that online/app-dating was a

normative experience and not reserved for only those with low self-esteem or high concealment.

In Hypothesis 4 there was no difference in app use whether you were out or not out, nor did App Use influence Internalised Homophobia. A reason for this is speculated to be related to the positive affect online queer space has provided the LGBT population (Groves et al., 2014; Miller, 2015a). The present findings may support that dating apps marketed for MSM, which establish user commonality, may be indicative of an alleviation IHP rather than contribution to it. Scores of Outness however were not the same for all participants, from the main effect observed it can be inferred that not being out contributed more to IHP. This finding appears to give tacit support to the results of Pachankis et al., (2008) that low disclosure was related to higher scores of IHP. Caution should be given not to equate the disclosure subcomponent with self-proclaimed Outness when measured as a binary. Future studies could control for differing aspects of Outness that directly relate to IHP.

Hypothesis 5 highlights that Internalised Homophobia is experienced significantly more in Bisexual Men. By taking the findings of HP 1 also into account, this result may be related to expectations or previous experience with biphobia from both hetero and LGBT+ people (Ochs, 1996). However, no direct causality between Low Disclosure and IHP can be inferred; Frost and Meyer (2009) suggest that disclosing can be function of circumstances, unconnected to internalized conflict, such as perceiving a non-discriminatory environment. Further analysis would be required to compare whether there is a contextual difference for when or from whom Gay and Bisexual men feel stigmatised about their sexual orientation. While the size of the Bisexual Men's group was large enough for analytic comparison to the Gay Men's group, thus strengthening where previous studies were limited (Herek et al., 1998), this limitation could be argued to have repeated again within the present study considering the 'Other' Orientation group. Due to the low number of participants (n = 20)

homogeneity was violated, rendering this data incomparable, inference that their score is representative of their respective populations cannot be validated.

For Hypothesis 6, only Self-Esteem was a significant predictor of Psychological Health. A linear relationship illustrated that as SE scores decrease, so too did Psychological Health worsen. This conclusion is interpreted simply as it has been previously observed that decreases in SE are related to problematic psychological well-being (Lee & Cheung, 2014). Having a lower sense of self-worth may potentially affect either the likelihood of experiencing or successfully regulating the symptoms or behaviours listed in the GHQ-12. Despite previous literature showing increased IHP being highly correlated with Mental health (Frost et al., 2013) no causal relationship was found. This result may be due to the current study focusing on IHP in a general context and not framed through HIV/AIDS status (Williamson, 2000). It is assumed that there is significantly less stigma attached to sexual minority status in isolation from disease status and may be responsible for the distribution of scores for IHP being positively skewed with heavy tailing; suggesting that higher scores of in the IHP-R scale are representative of the minority of participants. No control was given for current health status, so it cannot be assumed that HIV/AIDS status is an absent confound. Outness not being a significant predictor for poorer psychological health may also be representative of the aforementioned trend in modern research that greater Outness is becoming less associated with increased mental health problems (McGarrity & Huebner, 2014).

Research Hypothesis 7 used two tests appropriate for both scale and categorical variables. From both significant findings there is statistical support to the anecdotal evidence that not uploading a profile picture, that displays a person's face clearly, can indicate that they are less likely to be 'out of the closet' (Blackwell et al., 2014; Miller 2015b). It is

speculated that the number of Non-Out app users who did not upload a face picture are representative of users who wish to explore virtual queer space without offline integration or public identification (Roth, 2014; Miller, 2015a). As stated before, the collected Qualitative Data will need to be analysed in order to conclude a generalizable rationale behind uploading or not uploading a profile picture.

However the results from Research Hypothesis 8 show Age did not differ between uploading face pictures or Using Apps for non-committed hook-ups. While this appears to conflict with the findings of Fitzpartick et al. (2015) and Baams (2011) it should be restated that the age range of the sample was 18 – 66 with a Mean age of 25.23. As the age data was collected on a continuous scale, group comparison would be difficult and becomes further problematic as the median age was 23; meaning 51.4% of the sample was aged 23 or younger. While this may tangential validate that younger MSM utilise online LGBT social sites more (Goedel & Duncan, 2015), it begs the question of how ‘older’ is specified when the majority of participants are relatively closer in age to the lower age-bound. If mid-point delineation between younger and older participants could be drawn from the sampled range, this mid-point average would be 42. However this causes severe homogeneity violations as group number comparison would be 669 to 29, with 29 being over the age of forty-two. Furthermore, it should be noted that Hook-Up category used in the analysis delineates those users who also selected Hook-ups with additional reasons and compares them to those who did not select; it cannot be assumed as their singular purpose for using Apps.

Limitations and Strengths

This current study cannot be generalised to other LGBT+ subpopulations. Future studies can endeavour to include the additional sexual orientations collected in the current study particularly Lesbian, Female Bisexuals and Intersex samples.

This current study operated on an assumption that Mobile Dating Applications could equate to website-based Online Dating, thus an extrapolation from traditional Internet use; specifically usage that stipulates user-behaviour found on social networking sites (Lee & Cheung, 2014). The hypotheses were built upon literature that focused on traditional non-Smartphone internet and emergent studies which extend specifically to GPS-based social networking applications for MSM community. A limitation may be found in using the term ‘Mobile Dating App’ synonymously with various Internet-interaction and online terms referenced in this study’s literature; Online Dating, Same-Sex Community Forums and Social Networking Sites. Post-hoc speculation; Apps may be better defined in alignment with Text Messaging or Mobile Phone use, this may account for the results found in HP3 and HP8 in particular. Future research could endeavour to define a valid construct for Dating Application use to avoid future misappropriation of measurement.

The statistics shown in Figure 3 should be interpreted with extreme caution; both categorical parameters and numerical conversion were established through the judgement of the researcher reviewing the Quantitative Responses that could be reduced to singular options. It may only be stated that the statistics observed are a close estimation of these responses. The third bar is ambiguous as it combines responses from different participants who thought both Face to Face meetings and Mobile Dating Applications were either Safe or Unsafe as each other.

Due to the formatting on Google Forms, the response fields for NOS-D and NOS-C were partially obscured as they did not fit the full screen. Participants were provided with a caution in the headings of both sections which read “SLIDE THE BAR ALONG THE BOTTOM FOR MORE RESPONSE OPTIONS!” (Appendix 3.2). It is speculated that this

warning was sufficient to not affect the current Disclosure and Concealment data as it is consistent with previous findings, also the event of numerous forum users contacting the researcher suggests that participants could navigate the page effectively.

Finally, no measure or construct for identifying Sexual Orientation was used other than self-selection of restricted non-continuum categories. The addition of sexuality measures including, but not limited to, the Bisexuality Identity Index (Paul, Smith, Mohr & Ross, 2014) and The Heterosexual-Homosexual Rating Scale (Kinsey, Pomeroy & Martin, 1948/2003) would allow for boarder analysis of Orientation and correlation between Outness.

Strengths of this study include sample number, online modality and response duration; the use of online gay and bisexual forums allowed for access to a large multinational population in a short time. Approximately 700 responses were collected within 3 days; For the Qualitative data approximately 1,280 individual responses across five open-ended questions were gathered collected. Additionally, large representation of a bisexual cohort is demonstrated which facilitated comparative analysis. The inclusion of three distinct Outness measures - including binary, degree and cross-situational - allows for sensitive analysis and a greater representation of the dynamic relativity of being open with one's sexual orientation (Kluttz, 2014).

Practical Implications

While no strong differences between the two was not statistically supported, treating Gay and Bisexual people separately in psychological research is a positive step for legitimizing differences expressed between them on a social and interpersonal level.

It is additionally noted that mobile dating apps also promote positive sexual health, disease and risk behaviour prevention (Goldenberg, McDougal, Sullivan, Stekler & Stephenson, 2014; Goedel and Duncan, 2015) there is a lack of literature to indicate that

these apps could be applied to generate a platform for advocating social support and mental health services. Statistical information gained from the variables of this study may contribute to this application and help promote an accessible means for both social and mental support for App users of all ages potentially struggling with their sexual identity, particular those users who are not out and would benefit from anonymous access to support.

In conclusion, Gay and Bisexual Men did not differ on Concealment, Self-Esteem or Psychological Health; however it was found that Bisexual men disclose their sexual orientation significantly less often. Not being Out about sexual orientation contributed more to Internalised Homophobia. It was also found that Bisexual Men had a higher rating of Internalised Homophobia comparing to Gay Men and other orientation groups including Pansexual Men. Low Self-Esteem and High Concealment were not associated with greater Dating Application Use, however Self Esteem negatively predicted Poorer Psychological Health. Dating Application users who were Out about their sexuality were 7 times more likely to upload a visible face picture to their profile. No difference in Age was found between those who did or did not have a face picture, nor was there a difference in Age between men who used Apps for Hooking-up and other users who did not. Half the participants currently had a Dating App, Nearly 60% of men who did not currently have Apps had used them before, however Face-to-Face encounters were rated considerably safer than Dating Apps for meeting new people.

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Appendices

(1.0). List of Online Communities

Facebook.com

- BiIrelandNetwork
- Bisexual.org
- DublinBiIrish

Reddit.com

- /r/gaybros
- /r/gayyoungold
- /r/ainbow
- /r/bisexual
- /r/bibros
- /r/bisexualadults

Boards.ie

- Lesbian, Gay, Bisexual & Transgender

Gaire.com

Additional

- Suvery link was emailed to local LGBT Choir groups such as ‘Dublin Gay Man’s Chorus’ and ‘Gloria’

(1.1). Conclusion for Qualitative Research Questions:

Disclosure may have harmful consequences in hostile environments, such as rejection or verbal abuse (Baumeister, 1982). Through concealment minority status a person may tacitly avoid internalizing negative societal and associated self-stigmas (Herek, Gillis & Cogan, 2009; Hatzenbuehler, 2009) although this may not necessarily subvert the actual threat/risk of discovery which challenge or question's one's status or identity. However, Concealment may be indicative of healthy adjustment within a hostile environment (Frost & Meyer, 2009).

Research Question 1: Are there perceived consequences of being a male minority and what are the factors that influence participants' decision to disclose their sexuality?

By signing up to Apps, Tziallas (2015) argues one is accepting a certain degree of surveillance that they may strategically regulate and engage in through concealing, disclosing, sharing media or filtering personal preferences. Every profile is subjected to screening while exchanging personal images is speculated to facilitate trustworthiness (Jones, 2005). Fitzpatrick et al., (2015) speculate that older individuals may be more susceptible to imagining negative impacts to their reputation from using Gay-Specific Apps however this study lacks of both quantitative and qualitative data regarding the decision making process of what visual or identifying information, such as a face picture, users do or do not share on their profile.

Research Question 2: What are the factors influencing the decision to upload a face picture?

While negative prejudices previously associated with traditional internet use and website-based online dating are documented (Schmitz et al., 2011), only a few qualitative studies indirectly address gay and bisexual male users communicating negative societal attitudes about Apps.

Research Question 3: Do similar or novel themes of presumptive stigma emerge for the participants regarding gay-specific Mobile Dating Applications?

Footnote: Due to restrictions, passages in the introduction relevant to the Qualitative component were omitted from the current thesis paper that was submitted for grading. In-text citations such in the above conclusion such as (Jones, 2005) and (Schmitz et al., 2011) were also omitted from the Reference section. Full citations will be provided in the full Qualitative literature.

(2.0). Cover Sheet

My Name is John O'Connor and I am a final year student of Psychology in Dublin Business School, Ireland. I am conducting research on factors associated with disclosure of orientation, sense of well-being, self-attitudes and how they potentially relate to Mobile Dating App usage in Gay and Bisexual Men. This research is conducive to my undergraduate degree and will be submitted for examination. You are invited to take part in this study. Participation involves completing the attached anonymous survey. It will take approximately 10-15 minutes to complete.

Inclusion/Exclusion Criteria

To be eligible to participate you must be Male, at least 18 years old and identify as Gay or Bisexual; there is an option to describe your orientation if you do not identify as either.

Data Anonymity

All information you submit is completely anonymous and confidential. No personal or identifying information will be required at any time. Responses cannot be attributed to any person. For this reason, it will not be possible to withdraw from participation after the questionnaire has been submitted.

Data Storage

The data will be stored on a password-protected computer. Only the researcher will have access to all data gathered. Research findings will be published in a thesis and potentially presented at a conference; again no participant will be identifiable.

Risks or Discomforts

While the survey asks sensitive questions and may cause some discomfort, it has been widely used in research. Contact information for support services are included on the final page. You may choose to quit the study at any time, for any reason, without penalty or prejudice from the researcher.

Should you require any further information about the research, please contact: John O'Connor, . My supervisor Lucie Corcoran can be contacted at . Thank you for taking the time to complete this survey. Your contribution can be beneficial toward a deeper understanding of Gay and Bisexual men's unique experiences.

By ticking this box you consent to participate in the study and confirm you meet the inclusion criteria;

- I agree

Footnote: An Implicit assumption of cisgender/cissexual normativity may be seen within the target sampling. An additional option was given for participants to submit their sexual orientation only if it did not match either Gay/Homosexual or Bisexual. No gender or intersex distinction was provided, thus final inclusion/selection was left to the discretion of the individual's gender identity perception of the word male.

(2.1) Survey

Q1. Please select the sexual orientation that best describes you

- Gay
- Bisexual
- Other _____

Q2. Please give your age in years: _____

Q3. What is your Nationality? _____

Q4. Please state your Ethnicity; _____

Q5. Please state your current location / country of residence: _____

Q6. Are you currently in a relationship? (Exclusive or otherwise)

Note: Out or "Out of the Closet" can refer to being 'Open about your sexuality'.

Q7. Do you consider yourself "Out" about your sexuality?

- Yes
- No

Q8. What degree do you feel Out to others about your sexual orientation?

- My sexual orientation is completely hidden from others.
- My sexual orientation is mostly hidden from others.
- My sexual orientation is more hidden than open.
- My sexual orientation is not quite hidden but not quite open.
- I am more open than hidden about my sexual orientation.
- I am mostly open with others about my sexual orientation.
- I am completely open with others about sexual orientation.

Q9. Do you currently have a profile on a Mobile Dating App?

- examples of Mobile Dating Apps include; Grindr, Tinder, Scruff, Hornet, GROWLr, Match, Jack'd, Badoo, Planet Romeo, Gaydar, Lavender, MISTER, Plenty of Fish. Guy Spy, U4Bear, Skout, DaddyHunt etc.
- Yes
- No

Q10. Have you signed up for an Online Dating profile or Mobile Dating App in the past?

- Yes
- No

Q11. Did you disclose your true name publicly on any of your profiles?

- Yes
- No
- I disclosed on some profiles but not others

Q12. Did you disclose your true age publicly on your profile?

- Yes
- No

Q13. Was/Is your face clearly visible in your profile picture?

- Partial concealment by sunglasses, scarf, blurriness or distance etc can make a face less than clearly visible.
- Yes
- No
- I have never uploaded a profile picture.
- I do not currently have a profile picture.
- Other; _____

Q14. Which options below best describes your reason for using these apps?

- I want to 'kill time' when bored.
- I want to make friends with other people.
- I want to meet other people to date.
- I want to find a boyfriend or a romantic partner.
- I want to meet other people to have sex with (No Strings Attached, Hook-up etc).
- I just want to chat with like-minded people
- Networking
- None of the above
- Other; _____

Footnote; The decision to include additional options in Q8 was informed by prior research focusing on gay app users; motivations of Apps being solely used for hook-ups - meaning casual sex connoting the lack of exclusive intimacy and commitment imposed by romantic relationships or coupledness – are numerous and overstated (Forrest et al. 2014; Roth, 2014; Licoppe et al. 2015; Balckwell et al. 2015). The findings of Goedel and Duncan (2015) are statistically indicative of these opinions, though there is no contextual control for sex explicating a 'no strings attached' Hook Up. It was predicted that changing the frame of sex from an ambiguous to an explicit context may affect results; however this was not a primary hypothesis of the current research. While it is arguable that this could dramatically affect the contrast validity of the measure, tests for reliability or validity were not established in the original literature (Goedel and Duncan, 2015).

(2.2) RSES Roseberg Self-Esteem Scale

Q15. Please read the following statements and choose the answer on the right that best describes you.

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

(2.4) Revised Internalised Homophobia Scale (IHP-R)

Q18. Please read the following statements and select the answer that best describes you.

I have tried to stop being attracted to men in general.

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

If someone offered me the chance to be completely heterosexual, I would accept the chance.

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

I wish I weren't gay/bisexual.

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

I feel that being gay/bisexual is a personal shortcoming for me.

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

I would like to get professional help in order to change my sexual orientation from gay/bisexual to straight

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

I have tried to become more sexually attracted to women (only).

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

I often feel it best to avoid personal or social involvement with other gay/bisexual men.

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

I feel alienated from myself because of being gay/bisexual.

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

I wish that I could develop more erotic feelings about women (only).

- Strongly Disagree Disagree Neither Disagree nor Agree Agree Strongly Agree

Footnote; a minor alteration rendered the test sensitive for Bisexual Men. Alternative wording for bisexual participants is indicated in square brackets (*I have tried to become more sexually attracted to women [only]*) and (*I wish that I could develop more erotic feelings about women [only]*). Some bisexual men can already be more erotically attracted to women than other bisexual men. The original question is preserved in its entirety yet the addition of *only*, in contrast, emphasises a desire for lesser erotic feelings toward men in general and becomes equally applicable to all males with varying same-sex attraction.

(2.5) General Health Questionnaire (GHQ-12)

We should like to know if you have had any medical complaints and how your health has been in general, over the last few weeks. Please answer ALL the questions simply by selecting the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

Q19. Over the last few weeks have you recently:

Over the last few weeks have you recently:	0	1	2	3
1 -been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
2 -lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
3 -felt that you are playing useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
4 -felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
5 -felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
6 -felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
7 -been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
8 -been able to face up to your problems?	More so than usual	Same as usual	Less so than usual	Much less than usual
9 -been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
10 -been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
11 -been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
12 -been feeling reasonably happy, all things considered?	More so than usual	About same as usual	Less so than usual	Much less than usual

(2.6). Optional Qualitative Component

The main survey is complete.

You have the choice to continue and answer 5 short questions.

OR

To end the survey now and submit your response

The additional questions relate to Sexual Orientation, Disclosure, Stigma and Dating Apps.

It will take approximately 5 mins to complete.

Q20. Please read the options carefully and select your decision.

- I wish to end the survey now.
- I wish to answer more questions.

(3.0) Qualitative Component

Please read the following questions and give your honest answer.

You can write as little or as much detail as you like.

You may SKIP questions that don't apply to you.

Participants are reminded that all submissions are completely anonymous.

When finished, please select the NEXT button to submit your answers

Q1. What determines whom you tell that you are gay, bisexual, other?

Q2. Do you feel there is stigma or negative societal attitudes about using gay-specific Dating Apps?

If so, from whom?

Q3. What are the risks or benefits with the label attached to your sexual orientation?

Q4. Which do you think is safer for meeting new people; Face to Face or Mobile Dating Apps?

Face-to-Face can refer to gaybars, saunas, through friends, at cafés etc.

Q5. If you use a Dating Apps; what motivates your decision to upload or to NOT upload a face picture?

(3.1) Debrief Sheet and Contact Details for Support Services

You have now completed the Survey.
Thank you very much for your participation.

Debrief;

The questionnaires in this study specifically measured Psychological Well-being, Outness, Self-Esteem, Mobile Dating App Use and Internalised Homophobia.

Your participation in this study has been useful and may help provide insight into unique experiences of Gay and Bisexual men while also helping to support any legitimate differences or similarities between the two.

If you have experienced any discomfort from the content of this survey, support services can be availed of through;

Gay Switchboard.ie

<http://gayswitchboard.ie/contact-us/>

ROI Phone; (01) 872 1055

National LGBT Helpline:

ROI Phone; 1890 929 539

Or for general help; Samaritans

<http://www.samaritans.org/how-we-can-help-you/contact-us>

ROI Phone; (01) 872 7700

If you know someone who would oblige taking part in this survey I would be grateful if you could forward it on to them.

Kind Regards

John.

(3.2) Screenshot of the participant view formatting on Google Forms

SLIDE THE BAR ALONG THE BOTTOM FOR MORE RESPONSE OPTIONS!

16. What percent of the people in these groups do you think are aware of your sexual orientation? (meaning they are aware of whether you consider yourself straight, gay, bi, etc.) *

With 0% being 'None' or 'Nobody at all' and 100% 'All' or 'Everyone'.

	0%	10%	20%	30%	40%	50%
Members of your immediate family (e.g., parents and siblings)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Members of your extended family (e.g., aunts, uncles, grandparents, cousins)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People you socialize with (e.g., friends and acquaintances)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People at your work/school (e.g., co-workers, supervisors, instructors, students)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strangers (e.g., someone you have a casual conversation with in line at the store)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

◀ ▶