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## GAY OR NAY? GAYDAR SNAP JUDGEMENT ACCURACY RATES AMONG QUEER AND STRAIGHT CIS-MEN

By

Alyssa Noelle Rowland Bachelor of Science, Pacific Lutheran University, 2014 Master of Arts, University of North Dakota, 2018

A Dissertation

Submitted to the Graduate Faculty

of the

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in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

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Alyssa Noelle Rowland December 7<sup>th</sup>, 2023

LIST OF	TABLES	vi				
ACKNOWLEDGMENTSvii						
ABSTRA	АСТ	ix				
CHAPTER						
I.	INTRODUCTION	1				
	Gaydar: Identity Recognition and Attribution	5				
	Ambiguous Groups Research	8				
	Communicating Sexual Orientation	8				
	Gaydar as a Cultural Competency	10				
	Measuring Gaydar	12				
	What does Gaydar Detect?	17				
	Trends in Gaydar Research	18				
	Critiques of Gaydar Research	20				
	Implications of Gaydar Research	23				
	The Current Study	35				
II.	METHODS AND MATERIALS	37				
	Sample Composition and Procedure	37				
	Stimuli	38				
	Measures	39				
	Procedure	41				
	Gaydar Metric	43				
III.	RESULTS	44				
	Descriptive Statistics	45				

# TABLE OF CONTENTS

		Bivariate Correlation Analyses	45
		Inferential Statistics	48
I	V.	DISCUSSION	49
		Implications	51
		Limitations	53
		Future Directions	54
REF	ERE	NCES	57
APF	PEND	ICES	74
	Ар	pendix A	74
	Ар	pendix B	76

## LIST OF TABLES

Table 1		8
Table 2	7	9
Table 3		0
Table 4		1
Table 5		2
Table 6		3
Table 7		4
Table 8		5
Table 9		6

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To my younger self and all the queer folks who have paved the way before me, supported me through, and those who continue to forge the way forward,

We got this.

#### Abstract

The validity of gaydar as a psychological construct has been evaluated in the LGBQIA2S+ literature with general agreement that an unclearly specified subset of the population has a better than chance probability of detecting the sexuality of others. The real-world implications of such a skill could be far-reaching. Gaydar could assist people identify and attract potential mates or life partners. It could also provide protection against the risks posed by making advances on an individual (e.g., a heterosexual man) who could react violently. The current study examined factors that impacted cis-male gaydar hit rates for queer and heterosexual targets in a snap judgment paradigm where there was limited target information and exposure time. Utilizing cis-male actors, participants were randomly assigned to one of three modalities: a video with the audio, only the audio of the corresponding video, or only the video without any audio. Actors (i.e., targets) consisted of five self-identified straight and five self-identified queer men. Following the media, participants made determinations as to whether the model was a member of the heterosexual or queer community (i.e., gay, bisexual, pansexual). Hit rates and confidence ratings were used to quantify gaydar accuracy. The results indicated that gaydar accuracy was low but relatively higher among the queer (27.4%) versus the straight (14.5%) participants. Over 60% of the straight men were substantially inaccurate in their predictions. The media modality of the depictions did not impact gaydar accuracy in either subset. Gaydar was moderately higher among homophobic straight men who expressed confidence in their predictions. Queer community involvement was inversely related to homophobia. The prevalence of gaydar snap judgment accuracy in the straight male population appeared in this study to be

ix

quite low. The implications of these findings were discussed within the context of teaching society the limits of sexuality inferences especially when they occur as a matter of snap judgments.

#### CHAPTER I

#### INTRODUCTION

Gay or Nay? A game played by some in the LGBQIA2S+ (lesbian, gay, bisexual, transgender, guestioning, intersex, two-spirit, and other gender and/or sexual minority members, i.e., queer1) community. The game is simple: find a stranger in the room and after viewing them for a brief period, make a guess as to whether the person is also in the queer community, where "gay" means yes, they are queer, and "nay" means no, they are heterosexual. The game requires one supposed skill: gaydar. The term gaydar is a popular term that plays on the word "radar," implying that one has the attunement to identify people within the queer community. There is debate as to whether this skill exists, what gaydar measures, and which specific attributes are being accounted for when making a determination. This current study aims to redefine how gaydar is measured, further contribute to the understanding of the existence of gaydar, and examine elements which contribute to the accurate use and application of this skill. In particular, this study will examine whether accurate gaydar can be achieved through snap judgements. This introduction will provide background to the current study and existing research and define this study's research problem, aims, objectives, and questions. Support for the significance of this research will be demonstrated as well as acknowledgement of limitations to the current study.

It should be noted that this author uses the term "queer" as a reclaimed and empowering term for the LGBTQIA2S+ community. LGB+ refers to Lesbian, Gay, Bisexual and other sexual minorities.

Although initially presented as an intentional game, the process of identifying individuals as in-group or not-in-group members is inherent to humans. People continuously make quick, automatic, and accurate inferences about members of obvious (e.g., race, gender) groups (Macrae & Bodenhausen, 2000) and are also significantly above chance when it comes to identifying members of ambiguous (e.g., sexual orientation, religion) groups (Tskhay & Rule, 2012). For sexual minority members, being able to accurately identify others is crucial for finding a mate and avoiding false positive identification is important given potential threats to safety of those who may approach potentially hostile straight individuals (e.g., gay rage).

To date, most research has focused on physical aspects of gaydar such as eye contact (Nicholas, 2004), visual and auditory gaydar (Fasoli et al., 2017), still photographs (Cox et al., 2016; Rule et al., 2008) vs video stimuli, and comparisons of accuracy between groups based on gender and sexual orientation (Lyons, 2014). Although there have been numerous studies, the question as to the validity of gaydar remains, as well as questions defining what exactly is being measured when assessing for gaydar. While studies have examined important aspects of this skill, it is worth examining other traits and behaviors which may contribute to development of this skill and/or hinder a person's gaydar accuracy. Some studies have suggested that gaydar is simply the process of stereotyping (Cox et al., 2016; Bridges & Pascoe, 2014; Hall, 2014) and when given visual stimuli, participants often utilize gender inversion cues to determine sexual orientation, therefore conflating gender expression with sexual orientation (Kachel et al., 2018; Mack & Munson, 2012; Munson, 2007; Rieger et al., 2010; Sulpizio et al., 2015). Many studies report the majority of participants are "better

than chance" at successfully identifying the sexual orientation of target stimuli (Ambady et al., 1999; Berger et al., 1987; Johnson et al., 2007; Munson, 2007; Rule & Ambady, 2008; Rule et al., 2008; Rule, Ambady, & Hallett, 2009; Rieger et al., 2010); however, others have argued that while statistically significant, these findings lack practical significance (Cox et al., 2017; Gelman et al., 2018). Other studies have determined that gaydar does not exist (Cox et al., 2016, 2017; Fasoli et al., 2016; Gelman et al., 2018; Kachel et al., 2017; Munson et al., 2006; Plöderl, 2014; Podesva, 2011; Smyth et al., 2003; Sulpizio et al., 2015) or have found mixed results (Ding & Rule, 2012; Lick et al., 2015). The current study utilizes self-reported confidence ratings in the metric for gaydar and re-examines the concept of "in-group" such that those who identify as heterosexual can still actively participate in the queer community.

While it is generally agreed upon in the research that individuals are on average better than chance at accurately identifying whether someone identifies as queer or not, the question of gaydar's existence still remains. Are individuals truly guessing based on chance guess alone, or do they have confidence in the assignments they give to target stimuli? Simply dichotomizing participants into gay and straight groups without accounting for their lived experiences and contexts results in an oversimplification of the in-group and out-group experience.

Studies on gaydar date back to mid-to-late 1980's (Berger et al., 1987) and studies as recent as this year (Fasoli et al., 2023) continue to debate the existence of gaydar. This study aims to measure gaydar implementing a more encompassing metric and to examine under what conditions gaydar accuracy improves (e.g., visual, vs. auditory, vs. both visual and auditory stimuli). Given the lack cultural context, this paper

aims to explore how the role queer community connectedness and involvement impact adaptation of the skill. Through examining hit-rates of male participant attributions of the sexuality of male models based on auditory, visual, or both presentations of persons. Taking into account background information of participants such as their levels of connectedness and involvement within the queer community as well as levels of homophobia, this paper aims to increase the knowledge of how such an important skill may be further developed by those in and allied with the queer community. The role of confidence in one's decisions will inform individual's gaydar scores to differentiate between pure guessing and decisions which are intentional and made with confidence.

This study will contribute to the body of knowledge on gaydar by giving further evidence in support or against its existence and contribute the development of a new metric for measuring gaydar. Doing so will help address the current ambiguity of how gaydar as a skill is defined and researched in this area and provide a real-world value to those within the queer community who are interested in ways to improve their ability to seek mates and avoid potential threats. Additionally, taking confidence under consideration of measuring gaydar provides clarity as to whether accuracy scores are based on guesses vs intentional decision making. While previous studies have focused primarily on one type of gaydar (e.g., auditory, visual), the current study will provide direct comparisons across three different stimulus modalities. This research study includes some limitations including being limited to people who have access to a computer or other electronic device with internet access. Given the higher number of hate crimes which occur against gay men compared to queer women, the study is limited to cis-gender males. The intent of limiting the sample to cis men participants and

actors as opposed to trans or non-binary individuals it to maintain focus on sexual orientation rather than gender expression and/or identity. Given the limited percentage of various sub-groups within the queer community (e.g., bisexual, pansexual, sapiosexual, asexual, etc.) there is a limitation regarding generalizability to specific subgroups within LGB+ communities.

#### Gaydar: Identity Recognition and Attribution

Gaydar has become a culturally common phrase used to describe the ability to detect and determine the sexual orientation of another individual. Typically, this involves determining whether another individual falls within the LGB+ community or identifies as heterosexual. Signal Detection Theory (Pastore & Scheirer, 1974) which measures the ability to differentiate between random patterns and signal-bearing patterns can be applied to gaydar. One must be able to identify verbal and/or non-verbal factors of another individual to either confirm or disconfirm someone's group alliance. For example, some studies have examined whether male sexual orientation can accurately be perceived from briefly presented faces with dichotomous choice options for sexual orientation: gay or straight (Rule & Ambady, 2008). Gender inversion has been examined as a mediating factor for perceiving sexual orientation. Some studies have explicitly stated the experimental task was a distinction between "gay and straight faces" (Freeman et al., 2010) and examine whether gender inversion mediates perception of sexual orientation. The use of forced categorical choices (gay or straight) has been criticized due to the prevention of more nuanced interpretations of participant responses.

The ability of gaydar has been deemed an adaptive skill (Shelp, 2003; Woolery, 2007) and a "recognition device" (Nicholas, 2004) developed as a way of "recognizing, interpreting, and displaying signs of same- sex desire and identity in contexts dominated by heterosexual norms and values" (Ohnstad, 2010). The practice is more often carried out by queer individuals looking to find like-persons or be identified by others within the queer community, as there is more to be gained by this group in the way of meeting multiple basic needs such as community and partnership (Nicholas, 2004). However, to do so, one must be able to accurately detect and identify factors consistent with people within the community.

The current study aims to examine factors which contribute to one's gaydar accuracy rates. As with most skills, one may be able to improve upon their gaydar; Nicholas (2004) posits that gay and lesbian individuals have potentially partaken in informal social training alike to apprenticeships to become "experts" at gaydar. Such training could take place within friend groups or at queer-related activities. The status of expert would particularly apply when comparing queer individuals with straight counterparts. Research has currently acknowledged four key perceivable aspects of others (or self-presentation to others) on which one focuses their skill: adornment, actions, acoustics, and appearance (Barton, 2015; Far & Degroult, 2008; Nicholas, 2004; Rule & Alaei, 2016). These aspects serve as triggers to set off other's gaydar (Barton, 2015). A fifth facet discussed in some studies includes "an energy" exchanged between two queer individuals (Barton, 2015), typically involving eye gaze (Nicholas, 2004) or a "vibe". Others have disputed the legitimacy of a "gay vibe" (VanNekirk,

2006). Given the nature of this procedure, with no in-person contact between two individuals, the components of such as eye-gaze, vibe or energy will not be examined.

Farr and Degroult (2008) proposed gaydar as part of an evolution of body in conjunction with identity. In children, this plays out as a need for association and belonging to a group and/or culture such as that of the LGBT+ community. Rule argues that queer individuals attempt to give cues to their sexual orientation which manifests in behaviors (e.g., style of hair or dress). The success of displaying or detecting these behaviors within others is a skill which may come naturally (Lyons, 2014), be learned (Woolery, 2007), or a combination of the two. Aspects which are not in control of the individual may also include structural signals such as facial morphology (Rule, 2017).

Gaydar has been labeled as "an adaptive skill" (Shelp, 2003; Woolery, 2007) but exactly what humans have adapted to detect in terms of sexual orientation and how this skill has been adapted has remained unclear. Current research has focused on the existence of gaydar (Rule, 2017; Valentova et al., 2011) and the conditions by which this skill can be utilized. While there are some studies which refer to gaydar as a myth (Cox et al., 2016; VanNewkirk, 2006), other studies show on average, persons have a better than chance accuracy at determining whether someone falls into the Gay, Lesbian, Bisexual and other additional queer identifiers (i.e., LGB+) or heterosexual sexual orientation (Rule, 2017; Valentova et al., 2011). Numerous studies have established gaydar as reliable and replicable (Ding & Rule, 2012; Freeman et al., 2010; Johnson & Ghavami, 2011; Tskhay & Rule, 2013).

The literature on factors of gaydar has been somewhat limited. The current study focusses exclusively on cis men within the queer community who identify as Gay,

Bisexual, Pansexual or "+" which describes additional sexual orientations in which a male has some or exclusive attraction to other men. While this researcher acknowledges that sexual orientation and sexuality are more accurately described on a spectrum than a dichotomy (i.e., gay vs. straight) (Freeman et al., 2010; Johnson et al., 2007; Rule & Ambady, 2008; Rule et al., 2009), for the purposes of this research individuals will be categorized as a Gay (i.e., queer) or non-gay member (heterosexual) consistent with past research methodology (Freeman et al., 2010; Johnson et al., 2007; Rule & Ambady, 2008; Rule et al., 2009).

#### **Ambiguous Groups Research**

The ability to detect others within the same group as oneself has always been an important cultural and survival factor. There exists a social–psychological field of research that explores the processes individuals of categorizing individuals into different social groups (Tskhay & Rule, 2013). Such research has consistently shown that ambiguous group members can be identified. Often accurate identification is higher for in-group members compared to out-group members. Woolery (2007) attributes this to being an adaptive skill developed for community, mating, and safety.

#### **Communicating Sexual Orientation**

The existence of gaydar suggests that one can sense or perceive a shared minority status of another based on certain characteristics typically consistent with those in the minority group. The skill of gaydar typically involves recognition, interpretation, and attribution of four main elements when attempting to perceive or infer the sexuality of another individual (Rule & Alaei, 2016; Rule, 2017). The four elements are as follows:

**Adornment**: An adornment is generally an accessory or ornament worn to enhance the attractive physical attributes or other desired trait(s) of the person wearing them. These include elements such as cosmetics, jewelry, clothing accessories, hair and facial hair, fingernail modification (e.g., painting, acrylics), piercing and tattooing.

Actions: The fact or process of doing something, typically to achieve an aim.

*Acoustics:* The way a person talks and sounds including prosody, inflection, intonation, stress, and rhythm.

Appearance: The initial impressions of an individual based solely on their physical traits such as clothing and bodily features. This may include natural features such as weight, height, nose and hair or non-natural traits such as clothing or make-up. Physical characteristics are features and bodily characteristics. These are aspects that are visually apparent even without further knowledge about the person. The first thing you see when you look at someone could be their hair, scarring, birthmarks, nose, clothes, or bodily figure. One chooses which aspects of themselves they wish to display and how to accentuate or conceal them; assuming one has knowledge of gaydar and commonly shared characteristics one could choose to accentuate or hide their "gay characteristics."

After interviewing five focus groups, Barton (2015) noted that the following elements were most commonly discussed when identifying characteristics of queer individuals: "physical presentation, including mannerisms, dress, and voice; interactions, especially eye contact" and "presence or absence of certain conversational social norms; and, intangibly, as a kind of energetic exchange." While the last of these

characteristics is particularly hard to measure, it was still a commonly identified theme for recognizing other queer individuals.

Apart from the "gay vibe", the remainder of these characteristics are readily perceived and can be actively incorporated into the way one presents themself. Not only can the skill of gaydar be utilized to perceive other in-group members, but it also serves to intentionally demonstrate characteristics and subsequently help a person be more easily identifiable to other queer individuals, providing further uses of the skill.

#### Gaydar as a Cultural Competency

There appears to be a culture that expects gay persons to have better gaydar than heterosexual counterparts. Straight individuals may claim to have good or bad gaydar, but the inherent skill is not expected. It has been found that queer individuals are more likely than heterosexual individuals to attune to cues that may signal sexual orientation. Doing allows them to have a higher likelihood of finding others within the same community, supports one's sense of belonging, and increases the likelihood of finding a partner and potential friends or peers (Colzato et al., 2010). This provides more motivation for queer individuals to have and use gaydar as a form of communication between queer individuals (Gelman, Mattson, and Simpson, 2018) whereas heterosexual individuals can expect to find other heterosexuals in nearly every room they walk into.

While there has been increasing acceptance of those who identify as queer, there are still times when openly signaling to others that one is gay can be dangerous. The community has a history of various means for inquiring or symbolling to others that one is gay in a covert manner. A person may ask another if they or a third-party person

is a "friend of Dorothy". Items may also be worn to signal sexual orientation to other queer folks such as a red tie, pink triangle, the lambda, the color lavender, key chains and colored handkerchiefs, rainbow bracelets, and/or pins among others. Phrases and clothing items can serve as a form of code to others within the communities and often these codes come from historically significant origins (Moxon, 1985, 3-4; Klapeer & Laskar, 2018).

People often speak of having good or bad gaydar, believing that the skill exists, and claim some level of confidence (or lack thereof) for categorizing people into the queer community. Regardless of its quantifiable existence, there is a clear pervasion of the belief of gaydar's existence within the queer community. Barton (2015) takes the sociological symbolic interactionist perspective (Thomas & Thomas, 1928) suggesting that regardless of whether the existence of gaydar can be demonstrated in terms of accuracy, there are still real consequences for gaydar because people believe it to be real.

While some may want to flaunt their queerness to have their identity recognized by others, others prefer to remain in the closet (i.e., to not disclose their sexuality to others or to hide their queerness). With the increase of social media sites there has been an accompanying decrease in privacy due to easily accessed information. There are significant implications for how one presents themselves on such sites (Cassidy, 2013). Whether online or in person, having "good" gaydar appears to be a source of pride in the queer community (Shelp, 2003).

#### **Measuring Gaydar**

The main goal of the current study is to determine whether accurate gaydar can be achieved by snap judgements. Another goal is to identify factors which contribute (positively or negatively) to the accuracy or successfulness of one's gaydar; specifically, to determine the impact of homophobia and community connectedness and involvement on a person's hit rate (i.e., correct identification of queer target). It has been established that the lay person has a better than chance ability when it comes to identifying the sexual orientation of another individual as within the LGB+ community or not (i.e., heterosexual) (Rule, 2017; Valentova et al., 2011). Some within the community have described it an automatic process; an intentional skill and deliberate act to assess others (Barton, 2015). While the majority of literature is on the side of existence of gaydar, others within the field continue to question its validity and have reported mixed conclusions (Cox et al., 2016, 2017; Fasoli et al., 2016; Gelman et al., 2018; Munson et al., 2006; Plöderl, 2014; Sulpizio et al., 2015).

With regard to methodology, most current research utilizes three modalities of stimuli and focuses on both accurate visual (Ambady et al., 1999; Berger et al., 1987; Johnson et al., 2007; Munson, 2007; Rieger et al., 2010; Rule & Ambady, 2008; Rule et al., 2008; Rule et al., 2009) and auditory (Gaudio, 1994; Linville, 1998; Masi & Fasoli, 2022; Sulpizio et al., 2020) gaydar. Whether auditory or visual gaydar are more effective in determination has been contested with the majority of the literature agreeing that visual cues appear to be more effective in increasing accuracy of hit-rates. This includes the use of short video clips as well as both real pictures of gay individuals and computer simulated pictures of gay men, and real or simulated audio recordings (Rieger et al.,

2010). Such studies have been done outside of the Western World such as one in Czech which examined both facial and vocal cues for gaydar. Findings were consistent internationally such that when gaydar is more accurate, this often co-occurs with the use of stereotyped association between male femininity and homosexuality and that reliance on such stereotypes often resulted in inaccurate judgments. To date, no study has examined three types of gaydar stimuli (visual with audio, video stimuli without audio, and audio only) in one study.

Face-Based Gaydar Research. There have been mixed findings regarding gay face-based gaydar or gaydar studies using visual stimuli including still images and videos. Cox et al. (2016) conducted five experiments using digitally constructed faces utilizing real and stereotyped gay and straight people's facial cues. Employing these constructed images, they determined sexual orientation was not able to be inferred by faces alone and proposed a third-variable confound must exist. Tabak and Zayas (2012) claim featural and configural face processing does impact snap judgements regarding the sexuality of others. Grätz (2018) disagrees that configural face processing plays a significant role in perception and identification of sexual orientation. Ambady et al. (1999) conducted a study utilizing still, one second, and ten second clips of gay and straight actors and found the queer actors were significantly more likely to be rated as queer compared to heterosexual counterparts. The researchers noted that some actors were consistently accurately categorized, while others had variable accuracy suggesting that something about certain gueer folks makes their sexual orientation more readily determined by other perceivers. A common confounding variable in gaydar research

utilizing images and videos are gender inversion cues which have been found to correlate highly with queer sexual orientation (Masi & Fasoli, 2022).

*Auditory-based Gaydar Research.* When one wants to imitate a queer man, they will typically increase the pitch of their voice, modulate their inflections, and emphasize words with "s". While stereotypical, research supports certain aspects of differences in speech between sexual orientations. Utilizing regression models, Munson (2007) found that different sets of acoustic measures predicted perceived sexual orientation and perceived femininity/masculinity. The study's results suggest perceived sexual orientation, femininity, and masculinity are distinct but correlated perceptual considerations.

Fasoli et al. (2018) performed two experiments assessing and comparing auditory gaydar between queer and straight individuals. In one experiment, speakers/stimuli were rated on a binary scale and identified as straight or gay, while in the second they utilized a Kinsey-like scale (1 = exclusively heterosexual, 7 = exclusively gay/lesbian). Both experiments resulted in relative but insignificant differences between the sexual orientations of listeners. In a recent study by Sulpizio et al. (2020) three issues related to auditory gaydar were examined including accuracy, language-dependency, and in-group specifics (i.e., occurs when targets use the same language, but not with foreign language speakers). The three experiments yielded results consistent with the findings of Fasoli et al. (2023). Auditory gaydar research exploring whether subsets of queer identities could be identified from straight or gay/lesbian counterparts found participants were unable to distinguish between someone who identified as bisexual compared to someone who identified as exclusively

gay or lesbian. Furthermore, while queer people were categorized correctly consistently more than chance, bisexual target accuracy remained at a chance level.

The aforementioned studies used naturally occurring voices for stimuli while other studies have digitized and modulated the pitch of target's voices to examine the impact of this property on perceiver's determination of sexual orientation (Borkowska & Pawlowski, 2011; Gaudio, 1994). More recent studies have examined other sets of acoustic parameters utilizing voice averaging approaches (Kachel et al., 2018). Kachel et al.'s findings were incongruent with more recent studies (Fasoli et al., 2023; Sulpizio et al., 2020) and found participants were able to judge sexual orientation by voice alone with above chance accuracy. Their results demonstrated that accurate ratings were able to be made utilizing both actual and stereotypical cues associated by speakers of shared-identity status. Linvill (1998) utilized tape recordings of monologues for perceivers to judge. In this study the sexual orientation of readers was accurately judged nearly 80% of the time, citing acoustic cues associated with perceived sexual orientation as the reason voices were so often correctly identified. Multiple regression analysis suggested that higher peaks, frequency, and longer /s/ durations are associated with queer males. Less commonly studied together, Smyth et al. (2003) examined both spoken and written language with regard to gaydar. Twenty-five voices were rated ranging from "very gay-sounding" to "very straight-sounding" rather than attempting to specifically determine their explicit sexual orientation. The researchers also examined discourse types (e.g., scientific, dramatic, spontaneous). Munson et al. 2006 examined both single-word stimuli and found that vowel existence and placement differed for sexual orientation groups. Similar to Linvill (1998), frequency and pitch were

examined to find that listener's perceptions of queer persons' speech styles may be related to their perception of other speech characteristics, or rather gaydar cues.

The Unmeasurable: Eye-gaze and the "Gay Vibe". Barton (2015) described the act of perceiving another's sexual orientation as the use of calculated proficiencies which are "deliberately engaged, as an automatic process and as a metaphysical connection." One of the subjects in this study also stated that gaydar is not only something that is performed but also something that one experiences. Nicholas (2004) conducted a study examining eye-gaze associated with identity recognition among gay men and lesbians. A three-year long ethnography revealed there are two types of eyegazes associated with gaydar: broken and direct stare. Being more conscious of these gazes serves to be a direct cue and reinforcement of the belief that someone is queer. Studies as early as 1981 have agreed that eye-gaze is a communicative force of identity and recognition within queer community (Darsey, 1981; Majors, 1992; Nicholas, 2004; Words, 1994). The same studies posit that the eye-gaze is utilized to objectify or signal sexual interest to other queer members. Other studies have suggested that the same stare also exists for straight people and rather serves as an indication of a potential romantic or sexual bond between any two or more individuals rather than an exclusively queer phenomenon (Bayliss et al., 2005; Kendon, 1967; Kleinke & Taylor, 1991; Wells et al., 2016). However, this does not account for queer people's experiences of the gay eye-gaze with persons whom they do not have a romantic or sexual interest in, and further studies on the topic are needed.

#### What Does Gaydar Detect?

Studies have generally divided response options in gaydar studies into dichotomous categories: gay or straight (Johnson et al., 2007; Rule & Ambady, 2008). The definition of gaydar has slight variations in the literature with some defining it as the ability to detect sexual orientation such that they can distinguish between gay and straight individuals (Freeman et al., 2010; Lyons et al., 2014; Munson, 2007; Rule & Ambady, 2008; Tskhay & Rule, 2013). Others have exclusively looked at whether queer targets have been accurately identified and have ignored accuracy with regard to straight targets. A large question remains as to what type of sexual orientation is able to be identified with many critiquing the dichotomous breakdown which ignores subgroups within the LGB+ population. This breakdown applies to both the breakdown of categories to place targets in, as well as the categorization of the participants themselves.

*Gender vs. Sexual Orientation.* Rieger et al. (2010) made a note regarding sex and gender, such that queer individuals tend to be more sex atypical (females appearing more masculine, males appearing more feminine) in behaviors, feelings, and interests and findings from their studies suggested that brief samples of sex-atypical behavior may function as effective gaydar signals. In a second experiment, participants were asked to rate the gender (a)typicality. These ratings were found to be highly correlated with sexual orientation categorization. Not only are actors perceived this way, but speakers in studies have also rated their voices similarly such that straight men view their voice as gender typical (i.e., masculine) and queer men viewed their voice as more gender atypical (i.e., feminine) (Fasoli et al., 2018). The current literature suggests that

queer individuals are inherently more gender nonconforming than heterosexual individuals (Lippa, 2000; Rieger et al., 2008<sub>a</sub>) which may account for these trends. While nonconformity appears to be the current belief, gender studies and queer theory maintain cultural definitions of sexuality and gender identity are rapidly shifting (David, 2003). As cultural norms for gender continue to change, how they are perceived and expressed by homosexual and heterosexual alike, may become less reliable as cues for gaydar judgements. Relying more heavily on gender cues results in higher error rates when targets gender cues do not align with their stated gender (Berger et al., 1987; Freeman et al., 2010; Johnson et al., 2007; Stern et al., 2013).

#### Trends in Gaydar Research

While some trends have been found in research surrounding gaydar, many have yet to be replicated consistently, suggesting the need for further studies to assess and clarify the impact of various characteristics on gaydar accuracy. Researchers have examined the impact of the sexual orientation of both raters and targets as well as the genders of both. Other factors such as political affiliation have also been explored.

*Political Affiliation.* Factors linked to gaydar include attitudes toward homosexuality (Brewer & Lyons, 2017), cognitive style with regard to political affiliations and cognitive load (Stern et al., 2013), and observer confidence ratings. Stern et al., (2013) determined gender inversion cues (e.g., feminine male = gay) were likelier to be used by those with more conservative ideologies. Additionally, those who selfexpressed themselves to be more liberal took more time overall making judgements, further supporting a decreased use in stereotypes for decision making and supporting a higher need for cognitive load. However, with increased cognitive load and decreased

time for decision making, both liberals and conservatives resorted to stereotypes for their decision making. Those who scored higher in homophobia, which was highly correlated with conservative ideology, were more likely to use stereotypes with less accuracy. It is believed that the current study will add support to homophobia being negatively linked with accurate gaydar, as well as higher levels of straight individual's confidence relating to lower accuracy.

Gender. A study by Fasoli et al. (2018) examined the impact of the speakers' beliefs about the extent to which their voice signals their queerness to others and the desire to be disclosed as such. They found that male speakers believed their voices to be more revealing of their sexual orientation than the women speakers did, suggesting the characteristics and cues in their voice were more likely to signal to others their gay or straight affiliation. Those in the sexual majority believed their voices to sound gender typical (i.e., straight men sound masculine) and those in the sexual minority believed their voices to sound more gender atypical (i.e., queer men sounded more feminine). In another study, it was found that men were more likely to be mis-categorized as queer compared to women (Lyons et al., 2014). Further suggesting that sex plays a role, one study found that ovulation plays a role in accuracy of sexual orientation identification such that heterosexual women were able to distinguish gay from heterosexual male faces with greater accuracy during ovulation (Rule et al., 2011). Gay men have also been distinguished as being easier to detect than lesbians according to Freeman et al. (2010); however, this was attributed to gender presentation and contradicted by the findings of Lyons et al. (2014).

Sexual Orientation. There is an assumption that queer individuals automatically have better at gaydar (Woolery, 2007) and two studies have provided support for this claim (Lyons, 2014; Shelp, 2003). Whether this is a result of nature or nurture is unknown. In two studies comparing straight and queer individuals examining auditory gaydar, both studies failed to yield significant differences between groups but rather noted a shift in the criterion being used (Fasoli et al., 2022). When looking at the impact of the beliefs of the speakers for an auditory gaydar study, masculine-sounding straight men were most hopeful that their sexual orientation was signaled through their voice, suggesting they did not want to "sound gay." In a study by Lyons et al. (2014) the researchers examined the role of female sexual orientation in judgement accuracy. They found that accuracy was better than chance for both male and female targets, but that the participants were more likely to falsely identify males as queer as opposed to falsely identifying female targets as such. They found the sexual orientation of the judges did affect gaydar accuracy rates.

#### **Critiques of Gaydar Research**

While gaydar research has become a popular topic in the last twenty years in both research and the media, many critiques of the research itself and the manners in which it is conducted have been made. Some critiques focus on how gaydar is defined and how accuracy is calculated, while others critique erasure of queer sub-group identities by using dichotomous choices (e.g., gay/straight). The time old concern regarding in-lab vs real world results and lack of accounting for base-rates is also examined by researchers. Many studies which have used real-person's or images contain stimuli of people who are already "out" (i.e., they have shared their identity with

others) and therefore researchers are unable to say whether gaydar applies to individuals within the queer community who are not out and/or those who may be "masking" (i.e., attempting to act or present oneself in a way that hides their queerness and attempts to emulate heterosexuality)(Kulick, 2000).

Accuracy vs error. Many studies examining gaydar tend to focus on accuracy (correct identification of straight people as straight and queer people as queer). See Gelman et al., for a detailed breakdown of the probability of correct classification (2018). By solely focusing on true positives, studies neglect to account for the impact of false negatives. In addition to the over emphasis on accuracy rates, there appears to be a similar trend of under emphasizing response bias (Lick & Johnson, 2016). The current study considers not only true positives and errors, but also incorporates the role one's confidence plays in these judgements, further clarifying whether these accurate judgments were made with intention or by sheer luck. Some researchers have argued that simply being "better than chance" does not necessarily indicate the existence of a skill (Miller, 2018). Miller also calls for more detailed accounts of why and how errors are made, in addition to calling for more thorough examination and reporting of variability for accuracies as well as errors.

Dichotomized Sexual Orientation (subgroup ignorance & more specific/accurate identities). The majority of studies conducting research on the existence of gaydar have dichotomized the choices for identification of stimuli into straight/gay categories, ignoring sexualities where people have both same-sex and opposite-sex attraction such as bisexuality and pansexuality, despite bisexuality being the most common queer sexual orientation among women (Bailey et al., 2016). As

mentioned prior, Fasoli et al. (2022) conducted two experiments utilizing both methods (dichotomous choice and Lykert-like scale) but yielded similar results for both: no significant findings. This study suggests that dichotomization of sexual orientation choices did not impact the results. Others have found that people are not able to distinguish bisexuality from queer individuals (Ding and Rule, 2012). Both Ding and Rule (2012) and Lick and Johnson (2014) found people are able to distinguish between bisexual and straight individuals. This gives support idea that gaydar simply identifies someone as belonging within the queer community or as a straight counterpart and nothing more. Given these findings and the low base-rate within the population, the current study upholds the standard of dichotomous choices.

Low Population Frequency and Unreliable Data. Grätz (2018) claims that the "ideals of scientific precision strip the context from intrinsically social phenomena". Grätz goes on to posit that many studies which have found statistically significant findings lack predictive validity outside of the lab, attributing much of this error to lack of consideration for base rates. Decontextualization, while inherent in lab experiments, takes away from something that has been defined by many as a social phenomenon. Numerous studies have critiqued gaydar studies where the base-rate of gay stimuli does not match the base-rate outside of the lab (Cox et al, 2017; Gelman et al., 2018; Plöderl, 2014).

Modest effect sizes are found for the majority of gaydar research that yields statistical significance (Tskhay & Rule, 2013). Base Rate Fallacy (Kahneman & Tversky, 1973) has been attributed to many of these studies (Plöderl, 2014 & Cox et al., 2016) such that in-lab findings are believed to be generalized to real-world application despite

the lack of foundational research to support this. In lab, participants have an equal chance of success and error due to the dichotomous choices of gay or straight. Plöderl (2014) makes the claim that rather than above chance results (i.e., above 50% accuracy), if Lyons et al. (2014) and Rieger et al. (2010) had utilized real-world base-rates in the lab, obtained accuracies would have decreased to 15-18%.

In line with generalizability of gaydar due to low base-rates in the gueer population, given the high base-rate of straight counterparts, there is an inherent bias to categorize individuals as straight (Miller, 2018). The title of Lick and Johnson's 2016 article says it all: "Straight until proven gay." This bias towards categorizing targets as heterosexual reported in the literature pervades across studies regardless of participant identity factors (e.g., gender, race) and regardless of the medium of stimuli utilized in the study (Freeman et al., 2010; Johnson & Ghavami, 2011; Johnson et al., 2007; Rule et al., 2008; Rule et al., 2011; Smyth et al., 2003). As such, these studies showed higher levels of accuracy for straight targets which in turn inflated the overall accuracy averages. Burke & LaFrance (2016) discuss the complex ways in which participants attitudes can differ depending on which target group is being considered and in turn affect the results. This influence is hypothesized to be in part due to in-group bias, however further research is needed regarding intermediate social categories. To combat erroneous inflation of gaydar accuracy rates, the current study's metric does not award points toward accuracy for correct identification of straight targets.

#### Implications of Gaydar Research

Some researchers have cautioned against gaydar research (Rule, 2017) and argue that the current results often serve to legitimize long-held stereotypes against

queer individuals. Such stereotypes can also result in and motivate prejudice (Monteith et al., 2009; Miller, 2018). Others have argued that gaydar research is a valuable tool to understand the implications of being able to identify ambiguous groups (Murphy, 2017; Tskhay & Rule, 2013).

*Validation of Gender Cues as a Heuristic.* Participants making judgements in some studies rely on auditory cues of gaydar. Those partaking in studies as speakers (i.e., the stimuli) also believe that there are auditory cues that reveal their sexuality regardless of whether their vocal cues are gender typical or gender atypical. As the beliefs are held on both ends of an experiment, group differences in beliefs about gaydar likely complicate individual's attempts to use gaydar to assess others with minimal cues, with both straight and queer people self-stereotyping and stereotyping others (Fasoli et al., 2018).

An increase in individuals identifying as trans or non-binary (i.e., agender, genderless), other attributes serve to complicate the use of stereotypical cutes. In certain settings, there appears to be a "hybrid" of gender and sexual orientation expressions which further confuse and conflate gender cues as a heuristic. For example, many working-class Midwestern women or metrosexual men are often misidentified as belonging to the queer community because of these assumptions and attributions of their physical appearance and mannerisms (Kazay, 2012; Bridges & Pascoe, 2014; Hall, 2014). People are able to identify gender atypicality, however whether this accurately relates to identifying sexual orientation remains to be clarified (Freeman et al., 2010; Rieger et al., 2010).

Queer Stereotype Validation. Cox et al. (2016) propose that gaydar is another label for stereotyping and the concept of gaydar serves as a legitimizing myth such that compared to the control group, participants who believed in the concept were more likely to make decisions based on stereotyped faces. Despite prior research suggesting otherwise, Cox et al. (2016) insist that stereotyping is unlikely to yield accurate assumptions about sexual orientation. As mentioned, there are also subsets of populations which are often misidentified based on their physical appearance such as working-class Midwestern women and metrosexual men. Both groups appear to display cues that are stereotypically associated with those in the queer community and without taking account for context or other possibilities, they are often mis-classified (Bridges & Pascoe, 2014; Hall, 2014). Bisexual men are often more likely to be misidentified as straight compared to other queer identities and are therefore at a lower risk for voicebased identification (James et al., 2023). Light et al. (2008) posits that intentional use and perpetuation of gay stereotypes in marketing serves to maintain the group as a niche market, further reinforcing these stereotypes for customers and anyone who views the advertisements.

*Limits to the Conversation.* One limit which must be acknowledged is how homosexuality is defined. Many studies operationalize being queer as simply selfidentifying as such (Shelp, 2003). Others argue that actions such as same-sex acts qualify someone as being queer even if they self-identify as straight. Research suggests that these different definitions change the base-rates (Savin-Williams, 2006) and speak to the implications of allowing individuals to self-identify their sexual orientation. It is the belief of this writer that only individuals can decide and identify their sexual orientation
and to do otherwise invalidates the person's experience and can cause undue harm. As such, the current study bases data of sexual orientation and the sexual orientations of targets on self-disclosure.

Artificial Intelligence (AI) Research. Humans appear to be slightly better than purely guessing when it comes to gaydar. Wang and Kosinski (2018) created an algorithm to classify sexual orientation of individuals based on images from queer and mixed sexual orientation sites. The AI informed by the algorithm was able to accurately identify people's sexual orientation 70 to 80% of the time, which is significantly greater than judgements made by humans. The study was replicated by Leuner in 2019 and again by Wang (2022). While the use of AI as a means of gaydar has been highly critiqued, authors have defended their research stating they wished to demonstrate risks of how AI could be used against the public in general (Murphy, 2017). Jernigan and Mistree (2009) were able to accurately predict individuals' sexual orientation through examining friend groups on Facebook. These algorithms lead to a concern for people's privacy with the possibility of being outed simply by how they look facially or their friend make-up on social media.

Adaptive Gaydar as an Important Skill. Shelp (2003) has labeled gaydar as an adaptive skill and there are valid needs for this particular skill. Imagine going through the process of applying for an apartment from across the country, moving in, and then making the "impression" that you're gay and being turned away, making you homeless. In 2021 there were still thirty-two states which lacked formal legislature prohibiting such discriminatory practices. As of June 2020, the U.S. Supreme Court ruled in Bostock v. Clayton County, Georgia, declaring employment discrimination based on sexual

orientation or gender identity illegal under Title VII of the federal Civil Rights Act. This ruling may have set a precedent for future rulings regarding housing, lending, and other similar matters; however, to date such discrimination is still legal in some states. Even with the 2020 ruling on work-place discrimination as illegal at the federal level, with a lack of clear laws in some states, discriminatory practices still occur, and queer individuals must seek recourse through federal courts. Given the lower level of poverty among queer individuals, such recourse is not equally accessible to all. Prior to the 2020 court ruling, thirty states had laws that permitted individuals to be fired for their actual or perceived sexual orientation, thirty-three where people and business may refuse service, deny entry to, or otherwise discriminate against queer individuals in public places based on their sexual orientation or gender identity, and thirty-nine states where state credit and lending discrimination are not explicitly deemed illegal in state law. Overall, there are twenty-two states which lack explicit prohibitions for discrimination based on sexual orientation or gender identities within their state laws (Movement Advancement Project, 2021).

Given all these every-day life opportunities to be the target of discrimination, looking gay or "flaming" can have severe financial, home, and practical implications (Barton, 2015). Knowing when to tone down cues of one's gayness is a skill set which many already employ. Mann et al. (2012) reported that auditory studies containing both gay and straight men demonstrated that both participants and actors within these studies may be aware of negative implications of sounding gay. Knowing this, individuals and may also modulate their voice or speech patterns to avoid detection or perception of their queer identity. Fasoli and Hegarty (2020) conducted a study

measuring sexual orientation vocal cues and their impact on first impressions and hiring decisions. They found men who "sounded gay" were ranked poorly in interviews and hiring procedures and were perceived as less competent than heterosexual applicants. This suggests that even subtle cues such as a person's voice may lead to negative biases and consequences. Those within the community who are able to "pass" (i.e., typically assumed to be) as straight are able to maintain or achieve the privileges afforded to the dominant group (Fuller et al., 2009). This, however, can have its own drawbacks such as marginalizing themselves from the queer community (Marrs & Staton, 2016; Weier, 2020). In general, researchers agree that passing can be both a form of power and privilege as well as oppression (Fuller et al., 2009; Weier, 2020).

While one may want to modulate their voice to decrease discrimination and increase chances of hiring, speaking naturally allows others to use vocal cues to detect their sexual orientation. Shelp (2003) reported that gay men are better at recognizing other gay men and attributed this difference to their desire to seek and connect with other like individuals. They do so by demonstrating and looking for said cues, while also avoiding those who might perceive them negatively. The act of changing how one speaks may also be automatic rather intentional. Mann et al. (2012) found that dyads between homosexual persons differ when the dyad consists of heterosexual participants: these dyads differed in self-touch, body posture, body orientation, and gaze. These changes appeared to present in more gender-neutral stances and eye contact, rather than the extremes of feminine or masculine presentations. One participant in Shelp's study went as far to say it can be dangerous for men in many circumstances to "flame" (i.e., more feminine traits coming forth, speaking with greater

hand movement). Doing so comes with "stigma in a homophobic, patriarchal culture". As such, gaydar is a coping mechanism (Shelp, 2003) and the necessity of such a mechanism is a result of the cultural conditions (Woolery, 2007) and the more oppressive cultures are, the greater the need for gaydar.

The same homophobic culture can have harmful emotional, physical, and even deadly consequences. In Judith Butler's (1990) notions, she suggest that heterosexuality is pushed into society as the only positive and accepted form of sexuality (i.e., heteronormativity) and those who defy this by sounding gay may experience social consequences regardless of their actual sexual orientation. Her work continues to inform experimental social psychologists' conceptualization of gender and sexual orientation (Morgenroth & Ryan, 2018). Past research has showed that, those who identified as queer experience lower levels of happiness and wellbeing compared to heterosexual respondents (Riggel et al., 2009). From early age there are sexual orientation disparities such as increased risk for PTSD and violence exposure (Roberts et al, 2010). Adolescents frequently experience encounters with homophobic slurs (e.g., fag, dyke) resulting in increased rates emotional distress including anxiety and depression (Almeida et al., 2009; Birkett et al., 2009) and perceived sexual and gender minority youth experience more bullying in schools than their heteronormative peers (Birkett et al., 2009; Marshall & Allison, 2019). Students uncertain of their sexual orientation reported even more bullying, homophobic victimization, drug use, feelings of depression and suicidality than either heterosexual or LGB+ students. Even the perception of subtle individual discrimination is negatively associated with psychological well-being (Siman et al., 2021). Outside of school, queer students have also

demonstrated experiencing heterosexism in institutions including but not limited to law, medicine, and government (Savage & Harley, 2009) as well as in personal and family lives. One major institution, law enforcement, contributes to the systematic oppression such that queer individuals fearing they will not be taken seriously or worse, they will be treated poorly: The NCAVP highlights many situations that cause queer individuals to be hesitant, if not fearful to call on law enforcement for help:

43% of hate violence survivors and 60% of intimate partner violence survivors reported interacting with law enforcement. Of the HV survivors, 55% reported that law enforcement was indifferent towards them and 20% reported that law enforcement was hostile. Of IPV survivors, 47% reported that law enforcement was indifferent towards them and 11% reported that law enforcement was hostile. Thirteen percent of HV survivors who reported interactions with the police also reported police misconduct. Of these, 44% reported excessive force was used. Five percent of IPV survivors who interacted with the police reported experiencing police misconduct and of these, 20% reported excessive force was used. (NCAVP, 2018)

These experiences come from those who are intended to help but rather create trauma for those seeking help. Not only is there a greater risk for experiences, but similar to the findings of Roberts et al. (2010), sexual minorities are likelier to experience trauma exposure at an earlier age (Bell & Perry, 2015).

"When there is a disillusionment with violence, masculinity under patriarchy turns toxic. What emerges then is not merely violence but 'rage' as the praxis of toxic masculinities" (Haider, 2016). Such rage has been taken out on members of the LGBT+

communities for years. In 2016 a shooting of a Florida gay night club on Latin night resulted in the death of 49 and serious injury to 53 members of the LGBT+ community (New York Times, 2016). The event struck fear and sadness into the hearts of many of the queer community with the knowledge that this could have been any one of us. A well-known slam poetry artist, Andrea Gibson (2017), summed it up that people were there and targeted "because of who they loved and how they loved" (Gibson, 2017, 5:50). Even outside of the rare nightclub shooting, there exists numerous of physical and emotional threats to queer individuals in everyday life.

Roberts et al. conducted an analysis of data from 34,653 noninstitutionalized adult US residents obtained from the National Epidemiological Survey on Alcohol and Related conditions (2010) and found LGB individuals (including heterosexual individuals who reported any same-sex sexual partners and/or sexual acts in their lifetime) had a significantly greater risk of childhood maltreatment, interpersonal violence, trauma to a close friend or relative, and unexpected death of someone close than heterosexual identifying persons with no history of same-sex relations. In a 2001 Kaiser Family Foundation (KFF) survey with a probability sample of 405 lesbian, gay, and bisexual adults in 15 U.S. cities. Thirty-two percent of respondents had histories of victimization in the form of physical violence against their person or property due to their sexual minority status (Kaiser Family Foundation, 2002). Similar findings emerged in a 2013 Pew Research Center's (2013) national sample with 30% of nearly twelve hundred LGBT+ respondents reporting they had been threatened or physically attacked because of their sexuality and/or gender identity over the course of their lifetime and 4% of respondents reported it in the previous year. Studies have also found that risk of PTSD

was greater for queer persons than heterosexual counterparts. This increased risk was largely accounted for by sexual orientation minorities' greater exposure to violence in addition to exposure to more potentially traumatic events. The findings suggest that anti-LGBT+ hate violence can have great long term psychological and emotional consequences for even nonvictims who are LGBT+.

Not only do these negative experiences result in psychological and physical stress, but they can also lead queer individuals to change their behavior to be more self-seclusive, which has its own negative repercussions. Bell and Perry found these events affected participants' decisions to disclose come out to others (i.e., inform others of their sexuality), such that they were less likely to do so. Along similar lines, Willis (2008) interviewed seven different men who experienced nine separate hate crimes. The interviewees described the acts as attempts at "slicing their identities" and noted the aftermath of the events left them with heightened awareness of self, others, and the environment resulting in disrupted intimacy and social connectedness.

Many of the overt prejudices were described above. There are also many lesser acts which contribute negatively to the wellbeing of queer individuals which can be encompassing and are explained by Meyer's Minority Stress Model (Meyer, 2003). Articulating the Minority Stress Model, unique stressors face stigmatized groups including those within the queer community, and the impact that such prejudice-related stress has a negative impact on health and wellbeing. More recently, Meyer (2015) and Frost and Meyer (2023) have highlighted community resilience and its role in mitigating the negative effects of minority stress. To experience this resilience, however, one must have some form of connection with said community. Community connectedness refers

to the degree to which an individual's affiliation with a group (e.g., the queer community, clubs, local communities) to create a mutually influential relationship and sense of belonging (Meyer, 2015; Whitlock, 2007). Among the LGBT+ community connectedness has been found to predict psychological wellbeing (Detrie & Lease 2007; Frost & Meyer, 2012) including positive impacts of connectedness with schools, teachers, and peers. Like connectedness, which is a perceived feeling, community participation may also moderate the effects of stigma on health and wellbeing of sexual minorities (Ramirez-Valles, 2002). Community participation refers to behavioral participation in a community (e.g., recreational activities, political rallies, online presence with LGBT+ groups, financially supporting causes specific to a group) (Ashmore et al., 2004; Frost & Meyer, 2012). Community participation may also serve as a protective barrier and decrease maladaptive coping mechanisms resulting from stigma (Ramirez-Valles et al., 2010).

The advantages of community connectedness and involvement on general wellbeing have been thoroughly demonstrated; however, there may potentially be more benefits such as increased accuracy of one's gaydar: a main goal of the current study. Tan (2016) proposed that anyone can acquire the skill gaydar through sufficient socialization with gay men and lesbians. It should be noted that Tan does not qualify this with "anyone in the queer community" but rather anyone who engages in socialization within the community. It is suggested that such participation may develop the skill and improve the gaydar of queer and non-queer persons alike. Those engaging with LGBT+ events may identify as queer or may simply be allies (i.e., persons in support of queer people and their rights). Research already supports positive aspects of being a heterosexual ally such as (a) increased knowledge and awareness, (b)

upholding values of justice, (c) beneficial individual relationships,

(d) community belonging, (e) educating others, (f) being a role model, (g) using social privilege, and (h) speaking out and taking a stand. Such research supports the notion that being ally to the queer community, even if one does not identify as queer, may be a rewarding experience and allies who do partake may have increases in their overall well-being (Rostosky et al., 2015). The current study may result in a nineth positive aspect: increased gaydar.

There are some who may also be "in-between" queer and ally such that they identify themselves to others as an ally but internally identify as queer. Coming out is a complex and ongoing process (Rust, 2002) that looks different for each person. Toft (2020) notes that coming out to feel the sense of belonging within the community is paramount for obtaining the perceived benefits and thus, may also play an important factor in the accuracy of one's gaydar. Thus, the current research may also provide insight to the collective community research (Tyschenko, 2021). Internalized homophobia and heterosexism may also be linked to lower levels of community connectedness which may be supported in the current study (Sanscartier & MacDonald, 2019).

*In-group Dynamics and Advantages.* While heterosexual people are on average better than chance in determining a person's sexual orientation, gaydar itself is deeply rooted in queer culture. To actively engage in gaydar and be aware of one's own and other's cues that may indicate sexuality is to actively engage in queer culture. Having such markers (e.g., pink triangle, rainbow flags) serve as both a point of pride

and demonstration to others that you are either queer yourself or a safe person for queer people to approach (Wooly, 2007). One of the current study's aims is to determine the extent to which a persons' involvement in other aspects of queer culture impact their gaydar accuracy rates.

**Desire for Disclosure.** While both queer and straight individuals both believe their voices to be revealing of their sexual orientation, there was a significant difference in the desire for their voice to do so. Fasoli et al. (2018) found that straight men wanted their voice to be indicative of their heterosexual sexuality while sexual minority members did not desire their voice to signal their queerness to others. Heterosexual men whose voices were rated as most masculine sounding also desired their sexuality to be disclosed the most suggesting a perceived negative association with sounding gay. With this being the case, the ability to modulate one's voice may be desired if one feels their queer identity could put them at risk. However, Sánchez and Vilain (2012) found that queer speakers who attempted to do so, were unsuccessful in affecting their queer identification by participants.

### The Current Study

The current study seeks to expand and contribute to the current body of knowledge on gaydar. While many studies support the existence of gaydar, others have provided evidence against this claim. As there have been critiques regarding how accuracy is defined, the current study wishes to address these by including the role of confidence in the accuracy calculations. The role of community has also been briefly discussed in the literature, but there has yet to be a study which fully examines the impact of community involvement. Lastly, while some studies have examined the

differences between still images and short (1-10 second) videos, no study to date has employed a direct comparison between three different modalities: audio, video without audio, video with audio. Real-world scenarios similar to these modalities include hearing someone talk across the room or over the phone without seeing them, seeing someone from a distance but unable to hear them, and having an in-person conversation, respectively. This comparison aims to provide insight to which factors both verbal and nonverbal play the biggest role in gaydar accuracy. A number of hypotheses were tested.

**H1.** Queer respondents were expected to have a significantly higher hit rate than those who identify as non-queer (i.e., heterosexual). This will be consistent with Shelp's (2003) and Lyons' (2014) findings that gay men are better at recognizing other gay men than heterosexual individuals.

**H2.** Men with greater involvement and connection to the queer community were expected to have better gaydar accuracy.

H3. Homophobia was expected to be higher among straight men with higher overall

confidence in their predictions.

**H4.** Homophobia was expected to decrease gaydar accuracy.

H5. Gaydar accuracy was expected to differ by media modality. Audiovisual presentations were expected to generate higher gaydar accuracy than unitary audio or video depictions

**H6.** Homophobia was expected be inversely related to queer community involvement.

**H7.** Gaydar accuracy among queer men was expected to be positively related to the length of time the respondent was "out".

# **Materials and Methods**

### Sample Composition and Procedure

Respondents (n = 718) were recruited and financially compensated (\$0.50) through Amazon's Mechanical Turk (MTURK), an online survey service. Prior to start of survey, participants viewed and completed an IRB-approved consent form. Previous studies have indicated that MTurk performs well as a more diverse and representative crowdsourcing research platform compared to standard internet samples and are equally reliable as traditional data collection methods (Buhrmester et al., 2011; Waggoner et al., 2019). This study included a national sample of self-identified cis male participants between the ages of 18 and 80 years old (M = 32.31, Mdn = 32.0, SD =5.08). The sample was limited to include cisgender participants and models to focus on sexuality rather than gender expression and identification. Additionally, there is a large gap in the field for measures validated on trans and/or non-binary persons. The final sample after exclusions consisted of adult cis male participants (n = 289) who completed at least 90% of the study and passed six criteria (gender, Captcha, adequate hearing/visual abilities, palindrome, alphabet, attention). Online proxy/VPN detection software (https://iphub.info) was relied upon, per best practice, (Burleigh et. al., 2018) to exclude users from outside of the country or dubious internet locales (n = 100).

*Inclusion Criteria.* Respondent inclusion criteria consisted of identifying as a cisgender male. Respondents were asked to confirm or disconfirm any vision and/or hearing difficulties that may have impacted their ability to hear or see the stimuli

provided. Those with difficulties were excluded from participation. Gender was limited through MTURK capabilities to filter respondents by gender, such that only males were able to complete the study through MTURK. A confirmatory question was placed at the beginning of the study asking participants to identify their gender. Any respondents who identified as anything other than cis male were excluded from taking the remainder of the survey.

*Exclusion Criteria.* Respondents were to be excluded for their failure to identify a palindrome ("*word spelled the same way both forward and backward*") in a multiplechoice item early in the survey (n = 0), however all 718 participants correctly answered this question. Palindrome items have been used to detect if bots were completing surveys. The response options were simple (noon, dad, mom, wow, and elephant) to avoid undue frustration for readers with a possible reading disability. An attention check embedded in the middle of the survey asked respondents to identify the last letter of the English alphabet and those who failed to answer the question correctly were excluded (n = 167). The palindrome and attention checks were positioned in the middle and at the top of the survey. A final survey item asked respondents "*Now that you have completed this survey, can you confirm your attentiveness and honesty in responding? Should we trust your responses represented a good faith effort to complete the survey?*" Respondents were excluded (n = 154) if they indicated "No, I didn't read most of the items and my responses were largely random."

## Stimuli

Media was generated for the purpose of this study. Ten male volunteers (5 selfidentifying as straight, 5 self-identifying as gay) were video recorded giving a 1–2-

minute demonstration and explanation of how to make a peanut butter and jelly sandwich. A neutral topic was utilized to avoid any bias or topics that may be more prone to indicate sexual orientation. The recordings were presented in three variations, based on the condition of the study, with either the video and audio being presented to participants or only the video or only the audio being presented. Previous studies have used similar methods of both video and audio recordings in studies assessing gaydar (Woolery, 2007; Shelp, 2003; Stern et al., 2012). Media clips were presented in a randomized order.

# Measures

**Demographic Questionnaire.** A demographic questionnaire was used to establish respondent age, gender, sexual orientation, religious affiliation, education, and length of time being out for those in the queer community.

*Gay Community Involvement Index (GCII)*. The GCII measures the level of involvement and connection to the queer community and was revised and validated to a 20-item scale by Foster-Gimbel et al. (2018). Participants respond to twenty items utilizing a 7-point Likert scale of 1 (*strongly disagree*) to 7 (*strongly agree*). The measure yields four subscales: Community activities (e.g., *"I am a member of a gay community group or organization*"), Media (e.g., *"I watch television programs geared toward the gay community*"), Nightlife (e.g., *"I frequent gay bars/clubs"*), and Political Activism (e.g., *"I am politically active in the gay community"*). Some items were adapted to be answered by both gay and straight men as opposed to solely gay men, such as changing wording from "*I can socialize with other gay men*" to *"I can socialize with gay men*". Scores are obtained by taking the average of each subscale. Items 12 and 20

were reverse scored and recoded into new variables (7 = 1, 6 = 2, 1=7, etc.). Missing data points for items on the GCII were replaced utilizing series means. The GCII yielded a total (COMM) score and four subscales: Community activities (ACT), Media (MEDIA), Nightlife (NIGHT), and Political Activism (POL). GCII<sub>T</sub> was calculated by taking the average score for all twenty items. ACT was calculated by taking the average of responses for items 1-7. MEDIA was calculated by taking the average of responses for items 13-16. POL was calculated by taking the average of items 17-20 (20 was reverse scored).

*Homophobia Scale.* The Homophobia scale consisted of 25 items and responses were indicated using a 5-point Likert scale (1-5). Participants respond to the statement on a 5-point Likert scale of 1 (*strongly agree*) to 5 (*strongly disagree*). The scale has been used in a variety of studies (Peter et al., 2015; Almeida et al., 2009; Huynh et al., 2020) and been further validated by Fisher et al. (2010). Items 1, 2, 4, 5, 6, 9, 12, 13, 14, 15, 17, 19, 21, 23, 24, 25 were reverse scored (1=5, 2=4, 3=3, 4=2, 5=1). Missing data points for items on the Homophobia scale were replaced utilizing series means. The total Homophobia scale was calculated adding all 25 items and subtracting 25 from the total score. Homophobia<sub>T</sub> possible scores range from 0 to 100 with higher scores indicating higher levels of homophobia. Homophobia<sub>1</sub> (Behaviors) was calculated using 10 items, adding the items and subtracting 10 from the total score. Homophobic behavior possible scores range from 0 to 40. Homophobia<sub>2</sub> (Aggression) was calculated using 10 items, taking their total sum and subtracting 10. The scale has been used in a variety of studies (Peter et al., 2015; Almeida et al., 2009; Huynh et al., 2020) and been

further validated by Fisher et al. (2010). Two factors emerge with scores ranging from 0 to 40 and the third with scores between 0 and 20. The title of this scale was not shown to survey participants to avoid bias responding.

#### Procedure

Participants completed an IRB approved consent form, describing the nature of the study as determining the accuracy of gaydar judgements. Gaydar has been defined as "one's ability to accurately detect and determine the sexuality of another individual (Freeman et al., 2010; Lyons et al., 2014; Brewer & Lyons, 2016; Rule & Alaei, 2016). In the present study, the determinations were limited to dichotomous choices identifying men as Gay (i.e., gueer, bisexual, gay, pansexual) or heterosexual (i.e., straight). After confirming their gender and attesting they did not have any visual or hearing impairments that would affect their ability to partake in the survey, participants were randomly sorted into one of three conditions: (1) audio only, (2) video/visual only, and (3) video with audio. The same actors were utilized in all conditions. Participants were presented with ten videos and/or audio clips of men giving a brief (1-2 minute) demonstration and explanation of how to make a peanut butter and jelly sandwich. These were not scripted prior to recording given past gaydar research critiques on simulated studies involving gay individuals. Allowing models to act and describe the process as they naturally would, aimed to increase generalizability of the study by having it be more similar to real-life situations.

After inclusion criteria were confirmed, the first clip plays and using a twoalternative forced choice task, participants were be asked to select whether they believe the individual in the clip was gay or heterosexual. Immediately after submitting their

choice, participants were asked to rate the confidence that their answer from the previous question was correct. Confidence was rated from 50% (*complete chance at being* correct) to 100% (*completely confidence my answer is correct*). Once their decision was selected and submitted, the following clip would begin, and the process continued until all ten clips had been played and decisions made. Following the completion of all clips, the participants were asked if they knew or recognized any of the models used in the videos and audio clips, however, no respondent indicated prior recognition.

After completing the video/audio portion of the study, participants completed the Gay Community Involvement Index (described above), followed by the Homophobia Scale (see above). Lastly, participants were asked to complete a demographic questionnaire, including questions regarding their age, race, sexual orientation, and amount of time being "out" to others for those who identify within the gueer community. The amount of time being out will consist of two subsections: being out privately (i.e., acknowledgement and confidence of their own sexuality) and amount of time being out publicly (i.e., have actively told family, friends, co-workers of their queer identities. Both were rated 0 (not out at all) to 100 (completely out; most people know or completely certain of my sexuality). As mentioned, attention checks were put throughout the surveys. Participants were debriefed following completion of the surveys and provided with contact information of the main researcher in case they had any follow-up guestions or concerns regarding the study or their participation. The Participants were compensated for their time following completion of study and verification that 95% of the surveys were completed.

## Gaydar Metric

The majority of the literature on gaydar utilizes signal detection analyses (Miller, 2018). These utilize hit and false alarm rates of aggregate groups to calculate perceivers' rate of accuracy. This allows for inclusion of both hits (correct categorization of sexual orientation) and misses (incorrect categorization of sexual orientation; false negatives). Errors are taken into account when a participant has a false positive (i.e., categorizes a heterosexual target as queer). Including hits, misses, and false positive errors provides more sensitive measurement of accuracy and error (Miller, 2018). Those who accurately identify queer individuals as gay and accurately identify heterosexual individuals as straight have greater resulting accuracy levels. Researchers who have endorsed the existence of gaydar typically consider greater-than-chance accuracy (>50%) to be good gaydar (Freeman et al., 2010; Johson & Ghavami, 2011); Rule & Ambady, 2008; Rule et al., 2009; Rule et al., 2011; Stern et al., 2013; Tabak & Zayas, 2012).

The intention behind classifications has been a gap in the literature. Gaydar has been described as both an automatic as well as intentional (Woolery, 2007; Shelp, 2003). The current study aims to improve on previous metrics for gaydar by taking the confidence for each rating into consideration. Doing so allows for clearer determination as to whether decisions are achieved through skill or by chance luck for persons who score above 50%. The Gaydar metric developed for this study utilizes confidence for each rating and compensates for errors on the heterosexual target side. True hits for queer targets are awarded a +1, while misses (i.e., labeling a queer person as straight) are scored -1. Each heterosexual target that was correctly identified resulted in a score

of 0 and false positive errors were awarded a score of -1. As previously mentioned, awarding a score of 0 for accurate heterosexual identifications eliminated the heterosexism bias and inaccurately inflating gaydar accuracy scores. The score for each target was multiplied by the participants' accompanying confidence rating for each determination. The equation for gaydar is as follows: GAYDAR = [(accuracy of 5 queer targets) X (confidences)] – [(errors for 5 heterosexual targets) X (confidences)] – [(errors for 5 heterosexual targets) X (confidences)]. The lowest possible score being -1000: misses for all 5 queer targets, false positives for all 5 straight targets, and all confidences rated at 100%. The highest possible score was 500: 5 correct queer hits, 0 errors (i.e., false positives), with 100% confidence. Positive scores mean more confident and accurate ratings than errors, while negative scores mean less accurate decisions made with high levels of confidence. An examination of the Gaydar skill distribution in this total sample led to the following classification scheme for group comparisons: *Accurate* (> 0, 20.6%); *Marginal* (between 0 and -200, 29.4%); *Inaccurate* (< -200, 50.0%).

# Results

Initial gaydar data were recoded to indicate true positives (i.e., Hits) and false positives (i.e., errors) such that a new score of +1 indicates a Hit for a queer target and a 0 indicates a miss for queer targets and a score of -1 indicates a false positive (i.e., a straight person was categorized as a queer person) and a 0 indicates correct categorization of a straight target. The total score for all targets was then multiplied by the corresponding confidence ratings for each determination and the resulting score being their Gaydar Accuracy score. The highest possible score was +500 (5 correct queer categorization with no false positives for straight targets, rated with a 100%

confidence) and the lowest possible score being -500 (0 correct queer categorizations with all false positives (-5) for straight targets rated with a 100% accuracy). Higher and positive scores indicated accurate and confident gaydar ratings while more negative scores indicated poor accuracy but high confidence ratings. Sexual orientation of respondents was recoded into dichotomous variables of queer and straight.

## **Descriptive Statistics**

Data analyses were done for the remainder of respondents after inclusion and exclusion criteria were met (N = 289). This sample was comprised of queer (n = 135) and heterosexual (n = 150) cisgender men. Descriptive statistics for the total sample and queer/heterosexual subsets are displayed in Table 1. Additional demographic information can be found in Table 2. Distributions Gaydar ability by stimulus presentation for the total sample are displayed in Table 3. The same distributions for the Queer and Straight subsets are demonstrated in Tables 4 and 5, respectively. The accuracy distribution in the total sample (Accurate, 20.6%; Inaccurate, 50.0%) differed significantly between those found for the queer (Accurate, 27.4%; Inaccurate, 38.7%) and non-queer (Accurate, 14.5%; Inaccurate, 60.1%) cohorts. Accuracy distributions for the total sample, queer subset, and straight subset and shown in tables 3, 4, and 5, respectively.

# **Bivariate Correlation Analyses**

Correlations between each predictor variable including GCII total and subscales, Homophobia total scale and subscales, aggregated confidence ratings, age, education level, and SES levels and GAYDAR scores were calculated. Table 6 Bivariate GAYDAR predictors among queer respondents. Table 7 shows Bivariate GAYDAR Predictors

among straight respondents. Correlations ranging from 0 to .3 are considered to be weak, correlations between .4 and .6 are considered to be moderate and correlation coefficients of .7 or larger are thought to represent a strong correlation (Dancey & Reidy, 2007).

Among total respondents, GAYDAR was correlated highest with the Homophobia total scale (r = .13, p = .05). Those with higher levels of homophobia were demonstrated to have increased Gaydar accuracy. However, while significant, this correlation is considered weak (Dancey & Reidy, 2007). Further review demonstrates a higher correlation between these factors for Straight Respondents and at a higher confidence level (r = .29, p = .01). For Total Sample Confidence was significantly correlated with Homophobia<sub>2</sub> (p = .05), Gay Community Involvement, Gay Community Activities, Gay Community Media, Gay Community Night Life, Gay Community Political Activism, and age (p = .01). Confidence was negatively correlated with Homophobia<sub>2</sub> (homophobic aggression) such that increased aggression toward queer individuals was correlated with decreased confidence ratings for GAYDAR choices. Confidence was positively correlated with all GCII total and subscales such that increased involvement was significantly correlated with increased confidence ratings. Homophobia total scores were negatively correlated with GCII total score, Gay community activities, night life, and political activism (p = .01) and Gay community media (p = .05). Homophobic behaviors and affect were significantly negatively correlated with all GCII total and subscales except Gay media (p = .01). Homophobic aggression was significantly correlated with all GCII total and subscales (p = .01). In all cases regarding Homophobia scales and Gay Community Involvement scales, increased homophobia was associated

with decreased levels of gay community involvement. Age was significantly correlated with SES such that older individuals typically reported lower SES (p = .01). Education was also significantly correlated with SES such that older individuals typically reported higher levels of education (p = .01).

Among straight respondents (see Table 6), confidence was positively correlated with age (p = .05) such that confidence increased with age. GAYDAR was significantly correlated with Homophobia total scale (r = .29, p = .01), Homophobic behaviors and affect (r = .21, p = .01) and Homophobic aggression (r = .22, p = .01). With increased homophobia scores, GAYDAR accuracy also increased. Consistent with the total sample, age was significantly correlated with SES (p = .01) such that increased age was associated with lower SES. Education was significantly correlated with SES such that increased education was associated with increased SES.

Among queer respondents (see Table 5), GAYDAR was not significantly correlated with any other factors. Confidence was significantly correlated with other variables. Confidence was positively correlated with all factors of gay community involvement including Total GCII (r = .29, p = .01), gay community activities (r = .26, p = .01), gay media (r = .42, p = .01) and Gay night life (r = .20, p = .05) and political activism (r = .20, p = .05). Increases in involvement were associated with high levels of confidence ratings. GCII total score, gay community activities, night life, and political activism, while significant, are considered to be weak correlations. The correlation between confidence and gay media is considered to be a moderate correlation. Confidence was also significantly correlated with education (r = .19, p = .05) and SES (r = .27, p = .01) such that increases in education and income levels were associated with

increased confidence. Age at which queer respondents came out and age they realized they were gay had no effect on GAYDAR scores.

# **Inferential Statistics**

An analysis of variance (ANOVA) on GAYDAR on yielded significant differences between queer and heterosexual respondents, F(1, 262) = 7.89, p = .01 such that queer individuals were significantly more accurate at determining queer target sexualities. The effect for this difference was small ( $h_p^2 = .03$ ) (see Table 8). There was no significant effect found for stimulus modality on Gaydar for the total sample. No significant differences were found for GAYDAR between stimulus modalities for the queer subset. Gaydar accuracy did not vary significantly by respondent political affiliation in the total samples, F(2, 261) = 4.29, p.052.

## Discussion

One goal of the current study was to determine whether gaydar accuracy could be achieved through snap judgments. Research findings have been mixed regarding gaydar ability and the conditions by which it is acquired and maintained. This analysis relied on a customized metric of gaydar accuracy that incorporated hit and miss predictions and confidence ratings. A central interest in this analysis was whether gaydar ability extended to snap judgments and whether queer individuals had better gaydar accuracy than straight counterparts. Targets were also presented in different stimulus modalities with a range of covariates such as homophobia and gay community involvement examined as potential accuracy contributors.

The first hypothesis that queer participants would have significantly higher hit rates than those who identified as non-queer (i.e., heterosexual) was supported and

consistent with prior studies (Lyons, 2014; Shelp, 2003) and inconsistent with the findings of Fasoli et al. (2022). Prior studies have classified accuracies above 50% as "good gaydar" (Miller, 2018). The current study classified positive scores (i.e., greater accuracy and confidence than error rates) as accurate gaydar. Respondents who generated index scores of less than -200 were regarded as inaccurate. Accuracy distributions differed significantly between the gueer and non-gueer cohorts. This finding was consistent with other findings (Lyons, 2014; Shelp, 2003) that gay men were better at recognizing other gay men than heterosexual individuals. While previous studies have demonstrated that typically both queer and straight men are considered to have good gaydar (Ambady et al., 1999; Berger et al., 1987; Johnson et al., 2007; Munson, 2007; Rule & Ambady, 2008; Rule et al., 2008; Rule, Ambady, & Hallett, 2009; Rieger et al., 2010), the current study conflicts with those findings such that the straight subset of the sample did not demonstrate this skill. The finding for the straight subset that gaydar does not exist is consistent with the findings of Cox et al. (2016, 2017), Fasoli et al. (2016), Gelman et al. (2018), Kachel et al. (2017), Munson et al. (2006), Plöderl (2014), Podesva (2011), Smyth et al. (2003), and Sulpizio et al. (2015). Such mixed findings are consistent with that of Ding and Rule (2012) and Licket et al. (2015).

It was also predicted (Hypothesis 2) that men who had deeper involvement and connection to the queer community would have significantly higher gaydar accuracy than those with little-to-no involvement within the queer community. This hypothesis was not supported and conflicts with the suggestions of Woolery (2007) that a period of apprenticeship or increased involvement in gay culture would increase one's ability to detect another person's sexual orientation.

Straight men who were more confident in their predictions were expected to be higher in their levels of homophobia (Hypothesis 3). Homophobia in this straight sample was found to be significantly correlated with confidence. This finding was consistent with other work (Brewer & Lyons, 2017) establishing those heterosexual men with negative attitudes toward homosexual men expressed higher confidence and bias when rating men's photographs. This was especially the case for homophobic men with cognitive biases in labeling other men.

Contrary to expectations, confidence and homophobia were both significantly related to gaydar accuracy among the straight men in the sample (Hypothesis 4). These effect sizes were modest in size and not predicted by prior empirical studies.

Contrary to expectations, gaydar accuracy did not vary as a function of the three media modalities (Hypothesis 5). Gaydar accuracy was generally low across this sample regardless of the stimulus presentation. This conflicts with previous studies which have demonstrated support for auditory gaydar (Morandini et al., 2023) and face-based or visual gaydar (Tabak & Zayas, 2012) but consistent with other findings disproving gaydar through presented stimuli (Cox et al., 2016). Previous studies have supported a consistency of results between modalities; however the consistency has typically supported the existence of gaydar (Freeman et al., 2010; Johnson & Ghavami, 2011; Johnson et al., 2007; Rule et al., 2008; Rule et al., 2011; Smyth et al., 2003).

Homophobia was found to be inversely related to queer community involvement (Hypothesis 6) in both the straight (r = -.36) and queer (r = -.28) sample subsets, consistent with the findings of Sanscartier and MacDonald (2019).

Contrary to expectations (Hypothesis 7), gaydar accuracy among queer participants was not related to the length of time being "out".

Gaydar snap judgements in this sample were fraught with inaccuracy. Most of the participants made confident errors when predicting sexual orientation. In the total sample, only around 20% of the participants generated predictions on the positive side of the metric. This rate of accuracy was less than 15% among the straight participants. Lick and Johnson (2016) noted an overemphasis on the value of accuracy rates in many studies without adequate attention to the many forms of response bias. This study was unique in its incorporation of confidence levels in the gaydar metric. Confidence was associated with somewhat higher accuracy among straight men in this sample, but respondents would have generally been surprised by the lack of association between their confidence and accuracy of predictions.

#### Implications

Given the need for individuals to find other in-group members for the purpose of relationships and community, the ability to accurately identify those within the same community serves as an important skill. Unfortunately, very few individuals possess a consistent and confident gaydar, contradicting previous research which claims the majority of individuals can successfully identify sexual orientation of target stimuli (Ambady et al., 1999; Berger et al., 1987; Johnson et al., 2007; Munson, 2007; Rule & Ambady, 2008; Rule et al., 2008; Rule et al., 2009; Rieger et al., 2010). The differences in findings may be due in part to differences in metric such that confidence was considered in the current calculations for gaydar rather than the criteria of being above chance (i.e., above 50%) accuracy.

Despite the lack of evidence suggesting the majority of the queer sample had accurate gaydar, many respondents rated their confidence in their decisions as high. This may be explained by the expectation that one should be better at gaydar if they are queer and the desire to fulfil this cultural competency (Mowlabocus, 2010, Woolery, 2007).

For both queer and straight participants, there appeared to be a bias toward labeling targets as heterosexual. This supports the heterosexual assumption "straight until proven gay" such that participants were more inclined to assign the heterosexual label to both queer and straight targets (Lick and Johnson, 2016; Sulpizio et al., 2015; Valentova et al., 2022).

While queer individuals were significantly better at identifying queer individuals (consistent with the findings of Shelp, 2003; Fasoli et al., 2022; Rieger et al, 2010), they were significantly worse with regard to errors in determining straight targets. These findings were consistent with those of Fasoli et al. (2022). Such errors could have dangerous consequences should queer individuals mistake someone for gay who is not and possibly may be offended by such an accusation.

Previous research has shown that decreased time viewing stimuli leads to greater use of stereotypes (Ambady et al., 1999). The importance of queer representation in the media has been demonstrated (Atika, 2013). If such practices (quick viewing) are used when selecting queer actors to play queer parts, it may lead to a greater increase in use of stereotypical queer individuals and clothing/makeup styles and ignore the myriad of presentations within the community. A more thoughtful approach would be of greater benefit with regard to equal representation of queer

presentations (Buckley, 2023; Gray, 2009). This pressure is particularly strong for bisexual men (Herek, 2002).

It appears that those with higher levels of confidence and higher levels of homophobia are more accurate than those with lower levels of both. This may suggest that straight people who have a negative view toward queer individuals may be hypersensitive toward them or actively perceive and judge individual's sexuality and therefore have greater confidence because of experience. This finding has potentially dangerous implications for queer men with stereotypically gay sounding voices (Morandini et al., 2023). It is possible that those who rate higher in levels of homophobia are more likely to engage in stereotyping, which has incidentally been demonstrated to increase gaydar accuracy rates (Kachel et al., 2018; Mack & Munson, 2012; Munson, 2007; Rieger et al., 2010; Sulpizio et al., 2015).

The inverse relationship between homophobia and gay community involvement suggests that through greater exposure to the queer community, levels of prejudice and discrimination decrease. Previous studies have demonstrated that exposure to hate speech increases prejudice through desensitization and conversely greater exposure and experience with minority groups demonstrates decreased levels of prejudice (Bedrosova et al., 2023; Soral et al., 2017).

# Limitations

While significant differences were found between straight and queer respondents, the findings should be interpreted with caution due to small effect size and inconsistent findings between previous studies which have found modest effect sizes (Tskhay & Rule, 2013).

A major limitation to this study and consistent with other studies is the issue of Bierasure. All subsets of queer identifies (e.g., bisexual, pansexual, etc.) were collapsed into a single queer category. While this was necessary due to limited number of nonheterosexual/non-gay responses, not allowing for a third variable ultimately creates a task in which one is trying to identify straight from non-straight individuals and ignores the nuances of identifies within the queer community. Erasure creates larger pressures for concealment (i.e., masking) and bisexuals tend to report less connection to other sexual minority people than their gay and lesbian peers (Balsam & Mohr, 2007).

It should be noted that given the nature of this study, recruitment yielded a greater number of queer individuals than expected. This is attributed to queer people having a greater interest in a topic with GAY in the title.

# **Future Directions**

Future studies should work to include a third variable such as bisexuality to test the effectiveness of gaydar for subgroups within the queer community. Ignoring these groups conflates findings and may serve to invalidate those identities. Gelman and Park propose that when trying to split a population into two groups you always need a third group to account for those individuals who fall within a margin of error (Gelman and Park 2009). Creating a non-homosexual but rather polysexual group to include those who identify as bisexual, pansexual, asexual, among others could help account for this margin.

It was noted that straight individuals were more accurate at identifying straight targets than queer individuals were at identifying straight targets. The inverse was also true such that queer individuals were significantly better at accurately detecting the

sexual orientation of queer targets compared to straight participants. This inverse relationship would be worth exploring further and may suggest that making determinations about queer and straight person's sexual orientation may in fact be two separate processes. This would differ from traditional views of gaydar which have conflated the two and defined gaydar as being able to tell the sexuality of (any) person, choice which has been criticized by some researchers (Miller, 2018; Sulpizio et al., 2016; Lick & Johnson, 2016).

Past research has demonstrated that straight and queer people alike utilize stereotypes when using gaydar (Fasoli et al., 2018). Given that stereotyping occurs on both ends of the sexual orientation spectrum, it is possible that homophobia may also occur with both subsets and potentially impact gaydar findings. While a homophobia scale was utilized for the purpose of this study, future research may benefit from assessing for Internalized homophobia among queer individuals and its impact on gaydar.

The current study focused on snap-judgements with regard to sexual orientation resulting in poor gaydar accuracy findings. The field may benefit from a study utilizing a delay in the ability to respond, such that participants would have to watch or listen to the entirety of a clip prior to being able to select a determination. Forcing participants to watch or listen to the entirety of a clip may impact scores since exposure times have been shown to change the way in which individuals use cues and make determinations in gaydar studies (Ambady et al., 1999).

Given the importance maintaining safety through avoiding potentially harmful individuals who may act negatively or violently toward queer people, further research

exploring queer individuals' ability to accurately discern sexual orientation based on limited information is of great import. The need to be able to identify potential mates and community members also serves as reason to better understand how someone might increase their ability to do so. Finding additional factors outside of gender cues reported in previous research, the literature and queer individuals could benefit from a greater understanding of the breadth of queer presentation and is important for both gaydar research and queer representation.

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## APPENDICES

# Appendix A

### Homophobia Scale

This questionnaire is designed to measure your thoughts, feelings, and behaviors with regards to homosexuality. It is not a test, so there are no right or wrong answers. Answer each item by circling the number after each question as follows:

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly disagree

1. Gay people make me nervous. 5	1	2	3	4
<ol> <li>Gay people deserve what they get.</li> <li>5</li> </ol>	1	2	3	4
<ol> <li>Homosexuality is acceptable to me.</li> <li>5</li> </ol>	1	2	3	4
<ul><li>4. If I discovered a friend was gay I would end the friendship.</li><li>3 4 5</li></ul>			1	2
<ol> <li>5. I think homosexual people should not work with children.</li> <li>5</li> </ol>	1	2	3	4
<ol> <li>6. I make derogatory remarks about gay people.</li> <li>5</li> </ol>	1	2	3	4
<ol> <li>I enjoy the company of gay people.</li> <li>5</li> </ol>	1	2	3	4
<ol> <li>8. Marriage between homosexual individuals is acceptable.</li> <li>5</li> </ol>	1	2	3	4
9. I make derogatory remarks like "faggot" or "queer" to people I				
suspect are gay. 5	1	2	3	4

<ul><li>10. It does not matter to me whether my friends are gay or straight.</li><li>3 4 5</li></ul>				1	2
<ul><li>11. It would not upset me if I learned that a close friend was homosexual</li><li>3 4 5</li></ul>	al.			1	2
12. Homosexuality is immoral.	1	2	3	4	5
<ul><li>13. I tease and make jokes about gay people.</li><li>3 4 5</li></ul>				1	2
<ul><li>14. I feel that you cannot trust a person who is homosexual.</li><li>3 4 5</li></ul>				1	2
<ul><li>15. I fear homosexual persons will make sexual advances towards me.</li><li>3 4 5</li></ul>				1	2
<ol> <li>Organizations which promote gay rights are necessary.</li> <li>4 5</li> </ol>				1	2
17. I have damaged property of gay persons, such as "keying" their car 3 4 5	S.			1	2
<ol> <li>18. I would feel comfortable having a gay roommate.</li> <li>5</li> </ol>		1	2	3	4
19. I would hit a homosexual for coming on to me. 5		1	2	3	4
<ul><li>20. Homosexual behavior should not be against the law.</li><li>3 4 5</li></ul>				1	2
21. I avoid gay individuals.	1	2	3	4	5
<ul><li>22. It does not bother me to see two homosexual people together in pu</li><li>1 2 3 4 5</li></ul>	blic	C.			
23. When I see a gay person I think, "What a waste." 5		1	2	3	4
<ul><li>24. When I meet someone I try to find out if he/she is gay.</li><li>3 4 5</li></ul>				1	2
25. I have rocky relationships with people that I suspect are gay.		1	2	3	4

# Appendix B

# Gay Community Involvement Index (GCII)

Carefully reach of the following and indicate the extent you agree with each statement on a scale of 1 (strongly disagree) to 7 (strongly agree)

- 1. I do volunteer work in the gay community
  - 1 2 3 4 5 6 7
- 2. I volunteer with LGBT++-focused charities or social services

1 2 3 4 5 6 7

- 3. I am involved with a sport team/organization for gay men
  - 1 2 3 4 5 6 7
- 4. I spend time at a community center focused on the gay community
  - 1 2 3 4 5 6 7
- 5. I am a member of a LGBT++ community group or organization

1 2 3 4 5 6 7

6. I am involved in a professional group (e.g. a business networking group) focused on the LGBT++ community

1 2 3 4 5 6 7

7. I am part of an unofficial LGBT++ community group (e.g. a book club, sports team, running club, etc.).

1 2 3 4 5 6 7

8. I watch television programs focused on a LGBT++ audience

1 2 3 4 5 6 7

9. I read blogs and other online content focused on the LGBT++ community

1 2 3 4 5 6 7

10.1 watch television programs geared toward the LGBT++ community

1 2 3 4 5 6 7

11.I read magazi	nes or r	newspa	pers g	eared t	oward	the LG	BT++ community
	1	2	3	4	5	6	7
12.I do not read r community	magazir	nes or r	newspa	ipers sj	pecifica	ally focu	used on the LGBT++
	1	2	3	4	5	6	7
13.I frequent gay	bars/cl	ubs					
	1	2	3	4	5	6	7
14.I hang out in p	olaces v	vhere I	know l	will so	cialize	with ga	y men
	1	2	3	4	5	6	7
15.I go to parties	where	the gue	ests ten	id to be	e gay m	nen	
	1	2	3	4	5	6	7
16.I spend time in	n places	s that a	re LGB	8T++ ha	angout	5	
	1	2	3	4	5	6	7
17.I am politically	/ active	in the L	_GBT+	+ comr	nunity		
	1	2	3	4	5	6	7
18.I participate in	n politica	al activi	sm rela	ated to	LGBT+	-+ issue	es
	1	2	3	4	5	6	7
19.I am involved	in LGB	T++ inte	erest a	ctivism			
	1	2	3	4	5	6	7
20.I am not invol	ved in a	iny polit	tical ac	tivism ı	related	to gay	rights
	1	2	3	4	5	6	7

# Descriptive Statistics for Gaydar Indicators

Measures	Label	a	М	SD	Range	Skew		
			T	otal San	nple			
Total Gaydar	GAYDARavg	NC	-200.12	226.17	1104	.19		
AudioVisual Gaydar	GAYDAR <sub>Avg1</sub>	.73	-201.67	232.86	1042	.27		
Visual Gaydar	GAYDAR <sub>Avg2</sub>	.63	-198.65	233.41	1052	.11		
Auditory Gaydar	GAYDAR <sub>Avg1</sub>	.65	-199.82	214.74	983	.19		
Prediction Confidence	CONF	NC	82.65	8.37	43	-0.53		
Audio Visual Prediction Confidence	CONF <sub>1</sub>	.96	81.30	9.36	88	35		
Visual Prediction Confidence	CONF <sub>2</sub>	.95	84.06	8.06	77	69		
Visual Prediction Confidence	CONF <sub>3</sub>	.94	82.75	7.37	86	52		
Respondent Age	AGE	NC	32.31	5.08	41	2.41		
Respondent Education	ED	NC	4.42	1.49	6	-0.65		
Respondent Income	SES	NC	51.07	28.31	120	0.37		
			St	raight Su	ubset			
Total Gaydar		NC	-237.76	237.76	1104	.53		
Prediction Confidence	CONF	NC	83.90	8.00	42.40	-0.84		
Total Homophobia	HPHOB	.65	44.07	8.21	81.00	1.19		
Homophobic Acts/Affect	HPHOB1	01	18.40	3.12	30.00	0.35		
Homophobic Aggression	HPHOB2	.93	11.27	8.03	40.00	1.10		
Respondent Age	AGE	NC	32.47	5.86	41	2.45		
Respondent Education	ED	NC	4.71	1.24	5	-1.34		
Respondent Income	SES	NC	47.93	27.79	120	0.28		
			Queer Subset					
Total Gaydar	GAYDARavg	NC	-158.23	205.47	940	-0.17		
Prediction Confidence	CONF	NC	81.18	8.58	42.90	-0.21		
Gay Community Involvement	COMM	.92	5.14	0.90	3.70	-1.10		
Gay Community Activities	ACT	.90	5.37	4.45	5.43	-1.16		
Gay Media Interests	MEDIA	.48	4.90	0.81	4.86	-1.07		
Gay Night Life	NIGHT	.90	5.38	1.31	6.00	-1.24		
Gay Political Activism	POL	09	5.38	1.31	6.00	-1.24		
Respondent Age	AGE	NC	32.12	4.03	25	1.71		
Respondent Education	ED	NC	4.10	1.67	5	-0.09		
Respondent Income	SES	NC	54.56	28.57	110.00	0.470		

**Note.** Total sample (N = 285) comprised of Straight (n = 150) and Queer (n = 135) subsets. NC = not calculable. ED (1=less than high school degree; 2=high school grad; 3=some college; 4=Associates degree; 5=Bachelor's degree; 6=Master's degree; 7=Doctoral degree; 8=professional degree). INCOME (x \$1,000).

Demographic Characteristics of Study Participants

	Characteristics	n	%
Sexual Orienta	ation		
	Heterosexual Queer (LGB+)	150 135	52.6 47.4
Race/Ethnicity	,		
	American Indian/Alaskan Native Asian White/Caucasian Bi-racial	12 2 175 94	4.2 0.7 61.4 33.0
Highest Level	of Education		
	Less than High School Diploma	3	1.1
	High School Graduate	60	21.1
	Some College	15	5.3
	Associate degree	0 127	2.0 /9 1
	Master's Degree	137 60	40.1
	Ph D / I D /M D	2	7
Income Level		2	1
	0 – 9.999	17	6.0
	10,000 – 19,999	19	6.7
	20,000 - 29,999	42	14.7
	30,000 - 39,999	33	11.6
	40,000 - 49,999	44	15.4
	50,000 - 59,999	33	11.6
	60,000 - 69.999	14	4.9
	70,000 – 79,999	31	10.9
	80,000 - 89,999	14	4.9
	90,000 - 99,999	33	11.6
	100,000 – 149,999	5	1.8
Political Affiliat		100	40.0
	Republican	139	48.8
	Democrat	94 50	33.U
	independent	52	10.2

	GA	YDAR⊤	GAY	<b>DAR</b> AV	GAYE	DARv	GAY	′DAR <sub>A</sub>
% Score	n	%	n	%	n	%	n	%
< -500	20	7.6%	7	7.5%	7	8.8%	6	6.7%
< -400	41	15.7 %	17	18.3%	11	13.7 %	13	15%
< -300	35	13.3%	11	11.8%	10	12.5 %	14	15.8%
< -200	35	13.4%	13	14.0%	11	13.8 %	11	12.3%
< -100	35	13.4%	8	8.6%	14	17.5 %	13	14.6%
< 0	42	16.0%	15	16.1%	9	11.2 %	17	19.1%
=> 0	33	12.6%	17	18.3%	10	12.5 %	7	7.9%
> 100	10	3.8%	0	0%	5	6.3%	5	5.6%
> 200	6	2.3%	2	2.1%	2	2.5%	2	2.3%
> 300	5	1.9%	2	2.1%	1	1.2%	1	1.1%
> 400			1	1.1%				
N	262		93		80		89	

## GAYDAR Ability by Stimulus Presentation in Total Sample

**Note.** GAYDAR<sub>T</sub> = total percent accuracy; GAYDAR<sub>V</sub> = visual gaydar; GAYDAR<sub>A</sub> = auditory gaydar; GAYDAR<sub>AV</sub> = audiovisual gaydar. N = 285.

	GAY	′DAR⊤	GAYI	YDAR <sub>AV</sub> GAYDAR <sub>V</sub>		GA	/DAR <sub>A</sub>	
% Score	n	%	n	%	n	%	n	%
< -500	16	11.6%	5	10%	6	13.3%	5	11.6%
< -400	25	18.1%	14	28%	5	11.1%	6	14%
< -300	20	14.5%	8	16%	7	15.6%	6	13.9%
< -200	22	15.9%	8	16%	7	15.6%	6	14%
< -100	15	10.9%	3	6%	7	15.5%	5	11.6%
< 0	20	14.5%	7	14%	25	55.6%	8	18.6%
=> 0	9	6.5%	1	2%	5	11.1%	3	7%
> 100	3	2.2%			5	11.15	2	4.6%
> 200	4	2.9%			1	2.3%	2	4.7%
> 300	3	2.2%	2	4%	2	4.5%		
> 400	1	.7%	2	4%	1	2.2%		
N	138		50		45			

## GAYDAR Ability by Stimulus Presentation in Straight Sample

**Note.**  $GAYDAR_T$  = total percent accuracy;  $GAYDAR_V$  = visual gaydar;  $GAYDAR_A$  = auditory gaydar;  $GAYDAR_{AV}$  = audiovisual gaydar.

	GAY	′DAR <sub>⊺</sub>	GAYDARAV		GAYDARV		GAYDARA	
% Score	n	%	n	%	n	%	n	%
< -500	4	3.2%	2	4.7%	1	2.9%	1	2.2%
< -400	16	12.9%	3	6.9%	6	17.1%	7	15.2%
< -300	15	12.1%	3	7%	4	11.4%	8	17.4%
< -200	13	10.5%	1	2.3%	3	8.6%	5	10.9%
< -100	20	16.1%	9	21%	7	20%	8	17.3%
< 0	22	17.8%	9	20.9%	4	11.4%	11	24%
=> 0	24	19.3%	15	34.9%	3	8.6%	2	4.3%
> 100	7	5.7%			6	17.1%	3	6.5%
> 200	2	1.6%	1	2.3%	1	2.9%		
> 300	1	0.8%					1	2.2%
N	124		43		35		46	

## GAYDAR Ability by Stimulus Presentation in Queer Sample

**Note.**  $GAYDAR_T$  = total percent accuracy; .  $GAYDAR_V$  = visual gaydar;  $GAYDAR_A$  = auditory gaydar;  $GAYDAR_{AV}$  = audiovisual gaydar.

	Variable	2	3	4	5	6	7	8
1	GAYDAR⊤	.03	.29**	.21**	.22**	02	.04	.03
2	CONF	Х	00	.05	13	.20*	14	13
3	HPHOB		Х	.81**	.84**	01	09	.01
4	HPHOB <sub>1</sub>			Х	.53**	02	14	.05
5	HPHOB <sub>2</sub>				Х	08	02	.00
6	AGE					Х	08	29**
7	ED						Х	.28**
8	SES							Х

### Bivariate GAYDAR Predictors Among Straight Respondents

**Note.** GAYDAR<sub>T</sub> = total percent accuracy; CONF = rating confidence; HPHOB = homophobia total; HPHOB<sub>1</sub>=homophobic behavior/affect; HPHOB<sub>2</sub> = homophobic aggression; AGE = respondent age; ED = education; INC = reported income. \* p < .05. \*\* p < .01. \*\*\* p < .001. N = 150.

	Variable	2	3	4	5	6	7	8	9	10
1	GAYDAR <sub>⊺</sub>	12	.12	.08	.14	.12	.12	.12	09	06
2	CONF	Х	.29**	.26**	.42**	.20*	.20*	.15	.19*	.27**
3	COMM		Х	.96**	.80**	.96**	.96**	.05	00	.04
4	ACT			Х	.67**	.90**	.90**	.03	.04	.03
5	MEDIA				Х	.73	.73**	.05	.04	.13
6	NIGHT					Х	1.00	.05	09	.00
7	POL						Х	.05	09	.00
8	AGE							Х	.08	.04
9	ED								Х	.03
10	SES									Х

#### Bivariate GAYDAR Predictors Among Queer Respondents

**Note.** GAYDAR<sub>T</sub> = total percent accuracy; CONF = rating confidence; COMM = gay community involvement; ACT = gay community activities; MEDIA = gay media interests; NIGHT = gay nightlife; POL = gay political activism; AGE = respondent age; ED = education; SES = reported income. \* p < .05. \*\* p < .01. \*\*\* p < .001. N = 135.

Sexual Orientation and Stimulus Modali	ty Effects on GAYDAR <sub>T</sub> Accuracy
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Source	SS	df	MS	F	р	Пp
Model	558197.04	5	111639.41	2.23	.05	.04
Stimulus Modality	1285.18	2	342.59	.01	.99	.00
Sexual Orientation	394241.36	1	394241.36	7.89	.01	.03
SM x SO	142604.76	2	71302.379	1.43	.24	.01
Error	12792414.29	256				
Total	23843015.00	262				

**Note**. Queer subset generated higher GAYDAR<sub>T</sub> Accuracy.

	GAYDAR⊤			GAYDAR⊤			GAYDAR⊤				
	(> 0)			(-200 to 0)			(< -200)			Significance	
	Accurate			Normative			Inaccurate			-	
	М	SD	n	М	SD	n	М	SD	n	р	$h_p^2$
CON	81.94	8.99	52	83.14	9.39	75	82.65	7.44	124	.773	.003
AGE	32.87	5.10	55	32.58	6.41	98	31.86	3.76	130	.374	.007
ED	4.41	1.51	56	4.50	1.50	98	4.36	1.47	131	.777	.002
SES	48.04	25.08	56	53.06	28.45	98	50.88	29.56	131	.569	.004
Straight											
CON	84.99	8.96	20	86.32	7.77	33	82.67	7.68	82	.068	.040
AGE	33.36	4.90	22	33.29	8.58	45	31.80	3.95	83	.289	.017
ED	4.91	1.19	22	4.80	1.20	45	4.60	1.28	83	.493	.010
SES	47.27	21.59	22	48.56	27.23	45	47.77	26.77	83	.982	.000
HPHOB	46.69	14.69	22	43.68	4.68	45	43.58	7.29	83	.267	.018
COMM	5.07	1.46	22	5.11	.85	45	5.10	1.00	83	.991	.000
ACT	5.35	1.70	22	5.34	1.00	45	5.33	1.15	83	.996	.000
MEDIA	4.82	1.11	22	4.90	0.59	45	4.86	1.05	83	.939	.001
NIGHT	5.32	1.72	22	5.29	1.15	45	5.39	1.32	83	.910	.001
POL	5.32	1.72	22	5.29	1.15	45	5.39	1.32	83	.910	.001
Queer											
CON	80.04	8.60	32	80.63	9.88	42	82.61	7.03	42	.389	.017
AGE	32.55	5.27	33	31.98	3.67	53	31.98	3.45	47	.786	.004
ED	4.09	1.62	34	4.25	1.69	53	3.94	1.69	48	.653	.006
SES	48.53	27.40	34	56.89	28.16	53	56.25	28.70	48	.364	.015
COMM	5.14	0.85	34	4.97	1.03	53	5.32	0.78	48	.160	.027
ACT	5.38	1.05	34	5.16	1.33	53	5.59	0.96	48	.174	.026
MEDIA	4.87	0.78	34	4.76	0.95	53	5.08	0.64	48	.147	.029
NIGHT	5.40	1.14	34	5.413	1.51	53	5.64	1.50	48	.150	.028
POL	5.40	1.14	34	5.13	1.51	53	5.64	1.15	48	.150	.028

#### Extreme GAYDAR<sub>T</sub> Group Differences as a Function of Predictors

**Note.** GAYDAR<sub>T</sub> = total percent accuracy; CONF = rating confidence; HPHOB = homophobia total; AGE = respondent age; ED = education; SES = reported income. COMM = gay community involvement; ACT = gay community activities; MEDIA = gay media interests; NIGHT = gay nightlife; POL = gay political activism; \* p < .05. \*\* p < .01. \*\*\* p < .001. N = 285 (Straight, n = 150; Queer, n = 135).