

**FINDING SIMILAR OTHERS ONLINE: SOCIAL SUPPORT IN ONLINE  
COMMUNITIES OF PEOPLE WITH A STIGMATIZED IDENTITY**

by

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## **Abstract**

Online groups can connect people with similar identities, interests, or experiences. People with stigmatized or minority identities may be particularly likely to participate in and benefit from online groups, as they may not have access to support from similar others in their offline lives. This study investigated online group use among multiracial people, who constitute a growing yet understudied population. In a sample of 461 members of two Facebook groups for multiracial people, it examined variables that influence the extent to which users experience belonging within the group and perceive the group as available to provide social support. Results indicated that members who perceived others in the group as more similar to themselves experienced greater belonging and perceived the group as better able to provide support. Users who viewed their multiracial identity as highly important also experienced better social support outcomes. Stigma consciousness, the extent to which someone expects to be stereotyped based on their multiracial identity, was associated with a lower sense of belonging. Finally, active participation (i.e., engaging directly with other members) and self-disclosure partially mediated the relationship between perceived similarity and support outcomes, suggesting that they may act as mechanisms by which users benefit from connections to similar others. This study indicates that online groups can play a positive role in users' social lives through their ability to promote connections to similar others. Findings contribute to the literature on online group use by identifying specific contexts, types of engagement, and user characteristics that can promote positive outcomes during social media and online group use. This study also has implications for research on stigma and discrimination, indicating that interactions with similar others in online spaces can benefit people with stigmatized identities.

## **Lay Summary**

Many people use online groups to connect to others who are similar to them. Among members of Facebook groups for multiracial people, this research investigated what factors are linked to members experiencing a sense of belonging in the group and feeling that the group can support them during times of stress. Group members who saw others in the group as similar to themselves and who viewed their multiracial identity as important benefited more from online group use. Additionally, people who see others in the group as similar to themselves are more likely to engage directly with other members (for example, by posting or commenting) and to share personal information in the group. In turn, these ways of engaging with the group lead members to experience greater belonging and to see the group as better able to support them.

## **Preface**

This research was conducted at the University of British Columbia (Okanagan) and supervised by Dr. Susan Holtzman. For the present thesis, I was responsible for the original conception and design of the study, filing the research ethics application, data collection, all data preparation and analyses, and the writing of every section of the thesis. Prior to data collection, this study was reviewed and approved by the Behavioral Research Ethics Board of the University of British Columbia (Okanagan). The ethics file number for the current study is H20-01480. Study hypotheses were pre-registered with the Open Science Framework under the DOI 10.17605/OSF.IO/YCQJU. To date, the results of this study have not been published.

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## **Dedication**

For my parents. Thank you for everything. Thank you, especially, for all of the walks, homemade meals, cups of tea, games of cards, and episodes of *Masterchef Australia* over the past year.

## Chapter 1: Introduction

For much of the world's population, social media use has become a normative aspect of social interaction. Although social networking sites (SNS) have existed since the late 1990s, their use increased rampantly in the late 2000s. Between 2005 and 2011, the percentage of American adults who used at least one social media platform increased from 5% to 50%, a number that rose to 72% by 2019 (*Social Media Fact Sheet*, 2019). Social media use is particularly prevalent among young adults, as 97.5% of Americans aged 18-24 report using at least one social media platform (Villanti et al., 2016). Furthermore, the popularity of social media is not just a Western phenomenon, with 2.65 billion people worldwide using social media in 2018 (Clement, 2019). One particularly interesting phenomenon related to social media use is the emergence of online groups. These groups, which predate social media by several decades, are often centred on a shared identity, interest, or experience (Wilson & Peterson, 2002). Beginning in the 1980s, the Internet platform Unix supported newsgroups, discussion forums that connected users interested in a certain topic (Emerson, 1983). McKenna and Bargh (1998) report that over 30,000 newsgroups existed by the late 1990s, focusing on a wide variety of subjects. In the past 15 years, online groups have largely migrated to social media platforms, especially Reddit (Singer et al., 2014) and Facebook (Park et al., 2009).

While online communities may bear some resemblance to their offline counterparts, they also differ in important ways (Wilson & Peterson, 2002). For example, online communities can connect people who are not able to meet offline, whether that is due to geographic separation (e.g., a rare disease), societal pressure (e.g., a stigmatized sexual identity), or practical constraints (e.g., pain or mobility limitations). In their seminal work on online communities for people with marginalized identities, McKenna and Bargh (1998) studied newsgroups related to socially deviant ideological interests (e.g., conspiracy theories)

and minority sexual orientations (e.g., homosexuality). They found that active participation (e.g., posting, commenting) in a newsgroup was associated with lower feelings of social isolation. Yet to date, there remains limited research on the processes that might lead to these social benefits, and whether certain types of people may benefit more from online groups than others.

The overarching goal of the current study was to gain insight into factors that may be driving the success of online support groups for people with a stigmatized identity. In a sample of members of Facebook groups for multiracial people, it investigated the effects of perceived similarity with other group members on perceptions of social support (perceived availability of support and sense of belonging). It also investigated potential mediators (active group participation, self-disclosure) and moderators (identity importance, stigma consciousness) of the relationship between perceived similarity and social support outcomes.

### **1.1 Social Relationships and Wellbeing**

A large body of literature indicates that strong social relationships are associated with lower rates of morbidity and mortality, as well as improved cardiovascular, neuroendocrine, and immune health (Holt-Lunstad et al., 2010; Uchino, 2006). Perceived social support has also been linked to better mental health and wellbeing across the lifespan (Chu et al., 2010; Siedlecki et al., 2014). Social support may be especially beneficial for people dealing with chronic stress, such as a stigmatized chronic health condition (L. Li et al., 2009), loneliness or social isolation (C.-Y. S. Lee & Goldstein, 2016), or a stressful occupation (Prati & Pietrantonio, 2010). Finally, social support is relevant to the process of stigma management and disclosure. Beals et al. (2009) found that social support is associated with wellbeing for lesbians and gay men, and that social support mediates the relationship between disclosure and wellbeing. Thus, social support is a critical factor in physical and psychological health, particularly for those experiencing stress (including stigma-related stress).

Two important components of social relationships within online communities are sense of belonging and perceived availability of social support. Online groups typically focus on a shared identity, interest, or experience, and can connect people who may not be able to find similar others offline (Wilson & Peterson, 2002). Thus, one of the primary positive outcomes of engaging with similar others in an online context may be an increased sense of belonging. This may be particularly true for multiracial people, who often face explicit and implicit exclusion from monoracial communities (Johnston & Nadal, 2010). Sense of belonging is also an important predictor of a variety of important outcomes, including meaning in life (Lambert et al., 2013), depressive symptoms (Sargent et al., 2002), and physical health (Krause & Wulff, 2005). Sense of belonging has positive psychological outcomes specifically for people with stigmatized identities, such as buffering people with serious mental illnesses from self-stigma (Treichler & Lucksted, 2018), protecting youth with disabilities against reduced life satisfaction (Daley et al., 2018), and reducing depressive symptoms among LGBT young adults (Heck et al., 2014).

In addition to a general sense of belonging, online group users may also experience benefits when they perceive the group as able to provide social support during times of stress. The buffering hypothesis suggests that social support is particularly beneficial for individuals under stress (Cohen & Wills, 1985), such as people with a minority or stigmatized identity who experience stress from anticipated or actual prejudice and discrimination (Meyer, 2003). Empirical research has also demonstrated positive effects of perceived availability of social support on physical and emotional wellbeing for people with stigmatized identities (Beals et al., 2009; Berghe et al., 2010; Elliott & Doane, 2015). Thus, this study focuses on sense of belonging and perceived availability of support as outcomes that people with a stigmatized identity may receive through participation in an online group.

## **1.2. Social Support through Social Media**

While social support provision within online communities is an understudied topic, a substantial body of literature has examined the effects of social media-based social support more generally, with the majority of this research being conducted on Facebook. Facebook was one of the earliest major social networking sites (SNS), reaching 100 million active users in 2008, and is currently the most popular SNS worldwide (Clement, 2020b). Compared to other popular SNS like Twitter, Instagram, and Snapchat, Facebook is more likely to be used as a medium for maintaining and strengthening existing offline relationships, and so is a ripe arena for social support provision (Bayer et al., 2016; Gilmour et al., 2019). Support provided on Facebook may also be more impactful compared to supportive interactions on other platforms, as Facebook includes features (e.g., “reacting” to posts with various emotion symbols) that are perceived effective at providing social support (Hayes et al., 2016). Thus, Facebook use appears to be uniquely centred on social support receipt and provision compared to other types of SNS use.

Despite the potential for Facebook use to facilitate supportive exchanges, some research has uncovered negative outcomes associated with its use. For example, several studies have found correlations between total time spent on social media and negative outcomes like depression and anxiety (L. Y. Lin et al., 2016; Woods & Scott, 2016). Similarly, a recent systematic review found support for associations between Facebook use (typically conceptualized as time spent on Facebook, frequency of Facebook use, or number of Facebook friends) and depression, anxiety, and other negative mental health outcomes (Frost & Rickwood, 2017). At the same time, effect sizes in this literature are typically small and inconsistent, particularly for the effect of social media use on depression and anxiety. A growing body of research indicates that social media use can have positive effects on mental



health, life satisfaction, and loneliness, particularly when users experience social support on these platforms (Gilmour et al., 2019).

A primary driver of the positive outcomes associated with Facebook use may be the supportive interactions that transpire on the platform. Recent reviews have assessed the existing research on social support provision through Facebook (Gilmour et al., 2019) and through SNS use more generally (Meng et al., 2017). Meng et al. (2017) reported that SNS are commonly used to exchange supportive messages. Rains et al. (2015) used meta-analysis to synthesize content analyses conducted specifically in health-related online contexts and found that users were most likely to provide emotional and informational support, relative to other types of support (tangible, esteem, and network). Furthermore, when comparing data from different health-related online contexts, they identified variation in the relative frequencies of support types that could be explained by characteristics of the disability or medical condition in question. For example, chronic conditions (e.g., diabetes, epilepsy, fibromyalgia) were associated with higher levels of tangible support, while diseases that threatened personal relationships (e.g., hearing impairment, HIV/AIDS, infertility) were associated with more nurturant (emotional, network, and esteem) support. Thus, online contexts are frequently used to communicate socially supportive messages, and (in some contexts, at least) support provided is tailored to match the specific needs of the receiver.

Despite emerging evidence for positive social outcomes, findings remain inconsistent, with some studies finding negative effects and others positive effects on variables like mental health and wellbeing (Frost & Rickwood, 2017; Gilmour et al., 2019; Meng et al., 2017). There are several methodological limitations that may account for these inconsistencies. First, many studies have conceptualized Facebook use in terms of time spent on Facebook or number of Facebook friends, which fails to take into account important information about what users are actually doing while on Facebook (Frison & Eggermont, 2016; Oh et al.,

2014). For example, the extent to which someone uses Facebook actively (i.e., engaging directly with others) rather than scrolling passively may influence outcomes (Frison & Eggermont, 2015). Specific types of interactions, such as sharing personal information, may also drive outcomes of social media use (Luo & Hancock, 2020). Second, studies that investigate social and psychological outcomes of Facebook use rarely specify the users that individuals are engaging with. For example, people may use Facebook to connect with close friends and/or casual acquaintances from their offline worlds. Users may also engage with people that they have never met in person, often in the context of Facebook groups. Facebook reports that the number of users meaningfully engaging in groups (as measured by user surveys) increased from 100 million in 2017 to 400 million in 2019 (Rodriguez, 2020), even as overall Facebook use has remained relatively constant (*Social Media Fact Sheet*, 2019). This indicates the importance of studying specific contexts in which people use social media rather than treating social media use as a uniform experience.

Third, research on social media use rarely takes into account individual differences and contextual factors that may influence extent to which they benefit from SNS use. Frost and Rickwood (2017) point out that research in this area typically relies on convenience samples of undergraduates, which underrepresents the demographic, geographic, and cultural diversity of social media users worldwide. At a finer-grain level, research on social media use among people with stigmatized identities (e.g., Bates et al., 2020; DeHaan et al., 2013; Wright & Rains, 2013) suggests that these identities play a major role in the way people use social media, particularly to connect to others with the same or similar identities. In contrast, research on social media use tends to focus on the general population, which fails to take into account contextual factors like specific social identities or other individual differences that could be influencing psychological outcomes.

In sum, SNS platforms (particularly Facebook) are commonly used to transmit socially supportive messages, but it is still somewhat unclear how and when this support provision leads to positive social and psychological outcomes. Inconsistent findings from studies of the effects of SNS use on wellbeing, depression, anxiety, loneliness, and other psychological outcomes suggest that SNS platforms can have dramatically different effects depending on how they are used and who is using them. The ubiquity of SNS use indicates the need for further research into how social media can confer social support and other positive psychological outcomes.

### **1.3. Importance of Support for People with Stigmatized or Minority Identities**

Seeking social support via social media may be a particularly effective strategy for people with minority or stigmatized identities. An identity is stigmatized when it causes someone to be rejected or discredited. This causes considerable stress within social interactions, as stigmatized individuals must continually try to prevent and/or cope with negative judgments (Goffman, 1963). Stigmatized identities include LGBT identities, minority racial or ethnic identities, and disabilities, and can have varying degrees of visibility or concealability (Newheiser & Barreto, 2014). Online social support may be uniquely beneficial for people with stigmatized or minority identities, who may not be able to receive social support from similar others in their offline relationships. For example, in a mixed-methods study of lesbian, gay, bisexual, and transgender (LGBT) adolescents and young adults, DeHaan et al. (2013) found that many used the Internet to better understand their own identities (intrapersonal use) or to meet similar others (interpersonal use). Additionally, the Internet provides opportunities for anonymous identity exploration, which can protect individuals from stigmatizing or discriminatory experiences offline (DeHaan et al., 2013). Social media can also facilitate identity development among LGBT youth by providing safe spaces for exploration (Bates et al., 2020). More recently, Fish et al. (2020) highlighted the

importance of online support to LGBT youth during the COVID-19 pandemic. Youth in their study who lacked identity-related support at home sought it from online groups and other LGBT-related social media content, demonstrating the potential benefits of supportive online spaces to people with stigmatized identities.

In addition to identity-related benefits of online support group use, past research has also linked group use to increased sense of community and empowerment (Yeshua-Katz, 2018), decreased isolation (McKenna & Bargh, 1998; Wentzer & Byholm, 2013), and decreased stigma (Wright & Rains, 2013). At the same time, evidence in this field is mixed, with some research indicating that excessive online support group use can be a form of social avoidance that leads to negative psychological outcomes (Lawlor & Kirakowski, 2014). People experiencing distress may also seek out online support groups as an alternative to formal mental health treatment (Townsend et al., 2012), which could have negative effects. Nevertheless, the large body of research indicating positive self-reported effects of online support group use among people with stigmatized or minority identities suggests that these groups can be beneficial when used in a healthy manner.

In addition to their ability to connect people who would not meet offline due to stigma or geography, online support groups may also benefit people with stigmatized or minority identities through the buffering effect they provide against minority stress. In his seminal work on minority stress theory, Meyer (2003) described the effect that prejudice and discrimination have on the mental health of lesbian, gay, and bisexual (LGB) individuals. Specifically, the stigma associated with LGB identities creates a hostile social environment in which people must cope with anticipated or experienced rejection, stereotyping, and discrimination. Minority stress is both chronic and unique; that is, it is continually experienced, and is experienced additively with stressors encountered by those who are not

stigmatized. At the same time, there are individual- and group-level factors that can buffer against the negative effects of minority stress among stigmatized individuals (Meyer, 2003).

Subsequent studies drawing on this theory have examined the protective role of social support, which can shield stigmatized individuals from negative mental health outcomes associated with anticipated or experienced prejudice and discrimination (e.g., Beals et al., 2009; McKenna & Bargh, 1998). Thus, minority stress theory suggests that social support is critical to the wellbeing of people with stigmatized identities. At the same time, social support related to a stigmatized identity may be hard to come by: In a study of LGB youth, sexual identity-related support was less available from family and non-LGB friends than support for other stressors (Doty et al., 2010). Participants in Fish et al.'s (2020) research also identified lack of identity-related support offline as a reason for engaging with online groups and services. Online communities may be able to fill the need for identity-related support by connecting people with stigmatized identities with others who are able to provide support related to that identity. The current study examines the role of online community in providing social support for multiracial people, who constitute a rapidly growing yet still understudied population.

#### **1.4. The Current Study**

The current study aimed to build and evaluate a model of social support in online communities for multiracial people. Specifically, it examined perceived similarity as a predictor of sense of belonging and perceived availability of support, and activity of participation and self-disclosure as potential mediators in these relationships. It also tested the potential moderating variables of identity importance and stigma consciousness, which may help explain who benefits most from these online communities.

### ***1.4.1. Multiracialism***

Multiracial people, or those who self-identify with two or more racial or ethnic groups, are the fastest-growing demographic in both the United States and Canada (Giamo et al., 2012; Parker et al., 2015). The rapid growth of the multiracial population in North America is due to both immigration and increasing social acceptance of interracial unions, with some estimates indicating that 20% of Americans will be multiracial by 2050 (J. Lee & Bean, 2004). Categorization of multiracial people has also changed dramatically in recent decades: Although people with multiple racial heritages have existed for generations (particularly in the context of slavery in the United States), they were previously categorized in one racial group based on legal rules (e.g., the one drop rule), phenotype, or group hierarchies (Bratter & O'Connell, 2017; Ho et al., 2017). The US began allowing people to select multiple races on the 2000 census, reflecting a greater social acceptance of multiracial identities over the past few decades (Harris & Sim, 2002).

In addition to being temporally relevant, multiracialism has unique characteristics related to stigma and social support. Much of the stigma associated with multiracialism is linked to difficulty categorizing multiracial people and identities. Particularly in North America, race has long been viewed as a set of discrete categories (Harris & Sim, 2002). People's racial categorizations of others are largely automatic and occur within approximately 100 milliseconds of first perceiving a face (Ito & Urland, 2003). Multiracial people, however, inherently resist categorization by blurring the lines between categories thought to be distinct. In their study of microaggressions, or brief stigmatizing events, faced by multiracial people, Johnston and Nadal (2010) identify several common experiences related to classification: Multiracial people may be excluded, isolated, or rejected because they are not monoracial. Alternatively, they might have their multiracial identity denied, such as when a multiracial person is told they "have to pick a side". Finally, multiracial people

may have their racial identities overlooked, and thus be subjected to stigmatizing experiences (e.g., prejudiced comments) that others would withhold if they were aware of the multiracial person's racial identity.

These difficulties involving categorization can lead multiracial people to feel excluded from or rejected by monoracial groups, even those with whom they share a racial or cultural affiliation. In fact, many multiracial people experience microaggressions from members of their own families. These microaggressions are quite similar to those experienced with non-family members, and can include isolation, favouritism, denial or questioning the authenticity of a multiracial identity, and shame for lack of cultural knowledge (e.g., language; Nadal et al., 2013). Thus, relative to other stigmatized racial identities, multiracial people are less likely to find similar others within their own families. The scattering of multiracial people across families and communities suggests that online contexts may be ideal places for this support provision to occur. Thus, the current study will examine Internet-based social support for multiracial people, and particularly how similarity and other identity and process variables influence perceived social support.

#### ***1.4.2. Similarity***

People often seek out online groups to find similar others, especially if the dimension of similarity is rare and/or stigmatized. McKenna and Bargh (1998), DeHaan et al. (2013), Fish et al. (2020) and Wentzer and Bygholm (2013) all identified collective identity as a characteristic of, or motivation for, use of online groups. The specific identities featured in these studies include deviant ideological beliefs (McKenna & Bargh, 1998), minority sexual identities (DeHaan et al., 2013; Fish et al., 2020; McKenna & Bargh, 1998), and health conditions (Wentzer & Bygholm, 2013), which suggests that similarity is relevant to online groups for people with a variety of stigmatized and minority identities. Both DeHaan et al.'s (2013) and Fish et al.'s (2020) work with LGBT youth indicates that finding similar others is

a reason they seek out online groups and other LGBT-related content. Furthermore, Wentzer & Bygholm's (2013) content analysis of online groups related to lung disease and infertility suggests that collective identity can foster individual empowerment as members cope with health-related stressors. Finally, McKenna and Bargh (1998) found that active participation in a virtual group was associated with decreased social isolation and increased importance of the group identity, which in turn contributed to greater self-acceptance.

These empirical findings parallel theoretical understandings of collective identity. Turner et al.'s (1987) self-categorization theory describes the processes and effects of perceiving people as members of social categories. It suggests that perceptions of similarity (i.e., that two people are part of the same social category) are critical to the psychological process of social support. Drawing on this theory, Haslam et al. (2012) proposed that social support is perceived more positively by both the provider and the receiver when both parties see themselves as members of the same social category. They summarized a wide body of literature that indicates that people are more likely to provide and receive instrumental, financial, and emotional support from an in-group member than from an out-group member (e.g., Haslam et al., 2004; Levine et al., 2005; Levine & Thompson, 2004). Similarly, social identification with an online group has been linked with increased participation intentions and behaviours (Zhou, 2011), which could include support provision and receipt. This suggests that these theoretical perspectives originally developed in an offline context can be extended to online groups.

The social identity model of deindividuation effects (SIDE), which describes the effects of anonymity on group behaviour, suggests that perceptions of similarity may actually be even more relevant within online contexts. Because of the visual anonymity typically associated with CMC, users rely more on social categories than on appearance and other individualizing characteristics. Consequently, in-group and out-group dynamics are a primary



driver of interpersonal relationships in an online context (Reicher et al., 1995). In support of this hypothesis, Antheunis et al. (2012) found that perceived similarity was the primary predictor of quality in online-only friendships, beyond social attraction and physical proximity. Furthermore, perceived similarity had a greater impact on online-only friendships than on offline friendships or mixed-mode friendships (relationships that began online but subsequently moved offline). Similarly, Malloch and Zhang (2019) found that perceived similarity to and identification with a member of an online support group led to greater perceptions of support availability. Together, these findings suggest that perceived similarity is an important determinant of perceptions of social support availability and other related variables (e.g., friendship quality) in online contexts.

The SIDE model has found the greatest empirical support when using small, specific group identities rather than broader social categories, such as nationality (Walther, 2011). This suggests that it may be particularly applicable to an online group for multiracial people: Although multiracialism is on the rise in much of the Western world, it is still a relatively specific identification that does not have as extensive a history of collective identity and activism compared to other identities (e.g., women, minority ethnic groups, LGBT identities; DaCosta, 2003). Thus, perceptions of similarity and in-group identification may be especially important in the context of an online group of multiracial people, causing them to have a strong influence on perceptions of community and social support.

*Hypothesis 1:* Perceived similarity will be associated with a greater sense of belonging within the Facebook group and greater perceived availability of support from Facebook group members.

### **1.4.3. Mediator Variables**

**1.4.3.1. Active Participation.** Variables that capture the process of engaging with an online group are likely to affect the relationship between perceived similarity and perceptions

of social support. Specifically, the extent to which a person uses a group actively (by engaging directly with other members) may influence the degree to which they feel supported by the group. Many recent studies on the psychosocial impacts of social media use have drawn on Frison and Eggermont's (2015) distinction between active and passive social media use. Active use involves posting content and directly engaging with other users, such as by commenting on posts or using the private chat feature. In contrast, passive use involves observing content without engaging with other users directly. A number of studies indicate that active (vs. passive) SNS use is associated with more positive psychological outcomes. For example, in Frison and Eggermont's (2016) study of Belgian high school students, more active Facebook use was associated with greater perceptions of Facebook-based social support, which in turn predicted lower levels of depressive symptoms among girls (but not boys). Seo et al. (2016) found that higher numbers of interactions with friends (a construct similar to active use) predicted greater perceived social support and subsequently lower loneliness. Similarly, several studies have found correlations between passive use and negative outcomes, such as loneliness, decreased wellbeing, and depressed mood (Chen et al., 2016; Frison & Eggermont, 2015, 2016). Thus, it is important to take type of use into account when evaluating the effectiveness of social media-based social support.

The impact of active use has also been assessed in groups related to stigmatized identities: McKenna & Bargh's (1998) found that active participation (posting rather than lurking) had a negative effect on social isolation and indirect effects on self-acceptance, coming out, and estrangement. Similarly, in an analysis of weight loss online support groups, Ballantine and Stephenson (2011) found that people with active communication styles were more likely to receive high levels of emotional and instrumental support from the group compared to people with passive communication styles. In contrast, lurking (passive participation) in online groups is associated with lower levels of intimacy and commitment to

other members (Rau et al., 2008; Sun et al., 2014). Finally, people who identify strongly with an online group tend to have increased participation intentions and behaviours (Zhou, 2011). Together, this body of research suggests that identification with an online group may cause people to use the group more actively, and that active use may subsequently have a positive impact on perceptions of social support. In other words, active participation may serve as a mechanism by which perceived similarity to others in the group produces increased perceptions of social support. Thus,

*Hypothesis 2:* Activity of participation will mediate the relationship between perceived similarity and perceptions of social support (sense of belonging and perceived availability of support).

**1.4.3.2. Self-disclosure.** In addition to active participation, self-disclosure is another possible mechanism that enhances perceptions of support and belonging in online groups. The hyperpersonal model of CMC suggests that self-disclosure promotes intimacy among communication partners in an online context (Walther, 2011), something that may contribute to perceptions of social support. Self-disclosure has a bidirectional relationship with social media use: People with a propensity to self-disclose are more likely to use social media, and people who use social media frequently tend to show increases in self-disclosure on the platform (Trepte & Reinecke, 2013). People may also choose online platforms as an outlet for self-disclosure of sensitive information (e.g., past sexual abuse, a stigmatized identity) because of the anonymity available (Andalibi et al., 2018; DeHaan et al., 2013).

In the context of digital communication, self-disclosure has been linked to more positive perceptions of social support both in online support groups (Yang et al., 2018) and on social media generally (Huang, 2016). Self-disclosure is also prevalent in YouTube videos related to LGBT issues, suggesting that it is an important component in seeking support from similar others online (Green et al., 2015). Similarly, Luo and Hancock (2020) summarize a

body of research indicating that self-disclosure on social media gives others opportunities to provide support, which in turn increases the discloser's perception that support is available when they need it. Finally, Posey et al.'s (2010) model of self-disclosure in online communities suggests that perceived similarity may motivate people to disclose more. Taken together, these findings suggest that perceptions of similarity may motivate people to self-disclose, which in turn may produce positive effects on perceived social support. Thus,

*Hypothesis 3:* Self-disclosure will mediate the relationship between perceived similarity and perceptions of social support (sense of belonging and perceived availability of support).

#### **1.4.4. Moderator Variables**

**1.4.4.1. Identity Importance.** The relationship between perceived similarity and perceived social support among people with a stigmatized identity is likely influenced by the importance of the identity in question. This effect has been observed in the context of non-stigmatized identities: For example, Branscombe et al. (1993) measured perceptions of a journalist who was either loyal or disloyal to the participants' university's football team. They identified differences based on whether the participant exhibited high or low identification with the team. Participants with high identification rated the loyal author more positively than the disloyal author on knowledge, journalistic ability, and personal liking; however, the discrepancy between the loyal and disloyal author conditions was much smaller for low-identification participants. Furthermore, in the presence of a threat to their identity (when the article described the participants' team losing), high-identification participants had an even greater discrepancy in ratings between the loyal and disloyal author conditions. These findings suggest that identity importance plays a major role in intergroup relations. Specifically, individuals who identify strongly with an identity tend to view loyal members of their group more positively than individuals for whom that identity is not particularly

important. Since people with stigmatized identities are continually under threat of prejudice and discrimination (Goffman, 1963; Meyer, 2003), identity importance may play an even more critical role in intra- and intergroup dynamics.

Accordingly, the relevance of identity importance, or identity centrality, has also been demonstrated in a variety of stigma-related contexts. Identity centrality promotes workplace disclosure among adult survivors of childhood cancer, which can connect employees to better instrumental and emotional support (e.g., workplace accommodations; Martinez & Hebl, 2016). Disclosure is a form of support-seeking that is particularly relevant to Internet use and online community, largely due to the potential for anonymity (Andalibi et al., 2018).

Accordingly, McKenna and Bargh (1998) found that identity importance was positively related to self-acceptance and negatively related to estrangement among users of newsgroups related to stigmatized sexual and political/ideological identities. Thus, identity centrality may be an important variable to include in analyses of online social support provision. Identity centrality is also positively related to psychological distress among people with a variety of stigmatized identities (Quinn & Chaudoir, 2009). At the same time, identification with a minority group can buffer against the negative effects of perceived discrimination on wellbeing (Branscombe et al., 1999). Since psychological distress is often an antecedent to support-seeking behaviour (Simpson et al., 2002), these findings suggest that identity centrality may both prompt people to seek support and protect stigmatized individuals from the negative psychological effects of prejudice and discrimination. Additionally, Branscombe et al.'s (1993) work indicates that identity centrality influences perceptions of similar in-group members relative to dissimilar out-group members, with high identity centrality associated with more positive perceptions of in-group members. Thus,

*Hypothesis 4:* Identity centrality will moderate the relationship between perceived similarity and perceptions of social support (sense of belonging and perceived

availability of support). Specifically, the relationship will be stronger for people high in identity centrality than for people low in identity centrality.

**1.4.4.2. Stigma Consciousness.** As discussed previously, minority stress theory suggests that perceptions of stigma influence processes involved in social support-seeking. For example, Beals et al. (2009) identified social support as a mechanism by which disclosure of a sexual minority identity positively impacts wellbeing. Thus, people with stigmatized identities may use disclosure or discussion of those identities as a way of seeking social support, particularly from others they expect to be supportive. This is particularly relevant to the online context, as the Internet can connect people across locations and with some degree of anonymity. For example, participants in DeHaan et al.'s (2013) study used the Internet to receive support from other LGBT people, particularly when external or internal stigma prevented them from receiving similar support in their offline contexts. This unique relationship between stigma and support-seeking suggests that stigma consciousness is likely relevant to online groups for people with stigmatized identities.

Stigma consciousness is a source of individual difference among people with stigmatized identities and pertains to their expectations of the extent to which others will stereotype them. People who are high in stigma consciousness also tend to perceive higher levels of discrimination in their day-to-day lives (Pinel, 1999). Stigma consciousness may be particularly relevant to multiracialism, as there are conflicting positive and negative stereotypes about multiracial people. While multiracial people may be excluded, isolated, or viewed as abnormal, they may also be exoticized and idealized, such as when they are stereotyped as physically attractive or treated as symbols of a post-racial society (Johnston & Nadal, 2010). Perceptions of multiracial people also depend heavily on sociohistorical context, and thus vary widely between locations (Bratter & O'Connell, 2017). Using experience-sampling methodology, Wilton et al. (2013) uncovered interesting relationships

between stigma consciousness, racial identification, and belonging among Asian/White, Black/White, and Latinx/White individuals: Those high in stigma consciousness identified more with the minority component of their identity and felt greater belonging around minorities.

These findings suggest that stigma consciousness is an important variable in accounting for the way individuals with stigmatized identities, and particularly multiracial people, receive social support from similar others. Specifically, individuals with high stigma consciousness may be more likely to benefit from support from similar others, as stigma consciousness is associated with greater identification with the stigmatized group identity (Wilton et al., 2013). Thus,

*Hypothesis 5:* Stigma consciousness will moderate the relationship between perceived similarity and perceptions of social support (sense of belonging and perceived availability of support). Specifically, the relationship will be stronger for people high in stigma consciousness than for people low in stigma consciousness.

## **Chapter 2: Method**

### **2.1. Participants and Recruitment**

Participants in this study were members of two Facebook groups for multiracial people, Subtle Halfie Traits (SHT) and Subtle Mixed Traits (SMT). Both groups are spin-offs of the group Subtle Asian Traits, which garnered international attention after reaching over 1 million members in 2018 (K. Lin, 2018). SHT currently has approximately 23,000 members, while SMT has approximately 12,000 members. SHT's administrators describe its mission as "to connect Halfies from around the world to create a community that celebrates the Subtle Traits of our culture and subcultures" (*Subtle Halfie Traits*, n.d.). Similarly, SMT is described as "a place to empower multicultural and multi-ethnic people to share stories, memes, and information about being mixed or being part of a mixed family by birth or guardianship" (*Subtle Mixed Traits*, n.d.).

In both groups, we posted a link to participate in the survey along with a short description of the study goals. We posted about the study twice in each group, approximately three weeks apart. Eligible participants were at least 18 years old, identified as multiracial (or biracial, mixed-race, etc.), and had been a member of the group for at least 1 month. People who did not meet any of these criteria were excluded from the study. Participants who completed the survey were entered into a draw for one of five \$100 gift cards. Data collection occurred in August and September 2020.

### **2.2. Procedure**

After providing informed consent and confirming eligibility, participants completed a standardized battery of quantitative measures (described below), followed by open-ended questions about their experiences in the SHT or SMT Facebook group. Participants also answered demographic questions. At the end of the survey, participants had the option of providing contact information for the gift card draw.



## **2.3. Measures**

### **2.3.1. Similarity**

The extent to which participants perceive themselves as similar to other members of the SHT or SMT Facebook group was measured using the Attitude Homophily scale (AH; McCroskey et al., 2006). The AH (15 items, 7-point Likert scale from strongly disagree (1) to strongly agree (7), e.g., “is like me”, “is similar to me”, “shares my values”) measures general similarity, and has demonstrated good reliability (Cronbach’s  $\alpha = .92$ ; McCroskey et al., 2006). Participants were instructed to consider their similarity with other members of the group when answering these items. Cronbach’s  $\alpha$  was .93 for this measure.

### **2.3.2. Active Participation**

Active participation was assessed using the Active Social subscale of the Passive and Active Use Measure (PAUM; Gerson et al., 2017). Some items were adapted to fit the context of a Facebook group rather than general Facebook use. For example, the item “posting status updates” was changed to “posting in the group”. The original measure also contains an Active Non-Social subscale; however, the items (e.g. “tagging photos”) were not relevant to Facebook group participation. The Active Social subscale contains four items including “posting in the group” and “commenting on posts, pictures, videos, etc.”, which are rated on a 5-point Likert scale from never (1) to very frequently (5). In Gerson et al.’s (2017) study, Cronbach’s  $\alpha$  was adequate for the Active Social subscale (.80). Similarly, Cronbach’s  $\alpha$  was .72 in this study.

### **2.3.3. Self-Disclosure**

Self-disclosure was measured using the Self-Disclosure Index (SDI; Miller et al., 1983). This 10-item measure asks people to rate the extent to which they have discussed certain topics (e.g., “what is important to me in life”, “what makes me the person I am”) with

other members of the group on a 5-point Likert scale from not at all (1) to fully and completely (5). This scale has previously demonstrated high internal reliability (Cronbach's  $\alpha$  between .86 and .93; Miller et al., 1983) and has been used in studies of online self-disclosure (e.g., Trepte & Reinecke, 2013). In this study, Cronbach's  $\alpha$  was .93.

#### ***2.3.4. Identity Importance***

Identity importance was measured using the 6-item Multigroup Ethnic Identity Measure – Revised (MEIM-R; Phinney & Ong, 2007). Items were reworded slightly to refer to respondent's identity as a multiracial person, rather than any single ethnic component identity (e.g., "I feel a strong attachment towards my multiracial background", "I have a strong sense of belonging with other multiracial people"). Items were rated on a 5-point Likert scale from strongly disagree (1) to strongly agree (5). Previous researchers have found the MEIM-R to be reliable (Cronbach's  $\alpha > .84$ ), and to display convergent validity with theoretical understandings of ethnic identity (e.g., Marcia's (1980) identity statuses, intergroup differences in racial identity salience; Yoon, 2011). Cronbach's  $\alpha$  was .75 in this study.

#### ***2.3.5. Stigma Consciousness***

Participants completed Pinel's (1999) 10-item Stigma Consciousness Questionnaire (SCQ), which was adapted to refer to stereotypes about multiracial people (e.g., "stereotypes about multiracial people have not affected me personally" (reverse-scored), "most monoracial people have a lot more prejudiced thoughts against multiracial people than they actually express"). Items were rated on a 7-point Likert scale from strongly disagree (1) to strongly agree (5). Pinel (1999) found the measure to be reliable among samples of women, gay men and lesbians, and ethnic minority students (Cronbach's  $\alpha$  ranged from .64 to .84). In this study, Cronbach's  $\alpha$  for the SCQ was .84.

#### ***2.3.6. Sense of Belonging***

Sense of belonging was measured using the General Belongingness Scale (GBS; Malone et al., 2012). Three of the original 12 items were excluded because they do not fit the context of an online group (e.g., “people do not include me in their plans”). The remaining nine items reflect two dimensions: acceptance/belonging (e.g., “I am accepted by people”, “I feel connected”) and rejection/exclusion (e.g., “I feel like an outsider”, “I feel isolated”, all reverse-scored). Items were rated on a 7-point Likert scale from strongly disagree (1) to strongly agree (7). Malone et al. (2012) found high internal reliability (Cronbach’s  $\alpha = .95$ ) for this scale. Similarly, the GBS had a Cronbach’s  $\alpha$  of .88 in this study.

### ***2.3.7. Perceived Availability of Support***

Perceived availability of social support was assessed using the 6-item Friends subscale of the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988). These items (e.g., “the people in this group really try to help me”, “I have people in this group with whom I can share my joy and sorrows”) refer to friends in the original measure but were adapted to refer to other members of the Facebook group. This subscale had high internal reliability (Cronbach’s  $\alpha = .85$ ) in Zimet et al.’s (1988) study. Items were rated on a 7-point Likert scale from very strongly disagree (1) to very strongly agree (7). Cronbach’s  $\alpha$  was .85 in this study.

### ***2.3.8. Control Variables***

**2.3.8.1. Time Spent on the Group.** Time spent using the Facebook group was assessed by asking participants how many days per week, and how many minutes per day, they typically spend using the SHT or SMT Facebook group. These values were multiplied to yield use in minutes per week.

**2.3.8.2. Time Spent on Facebook.** Time spent using Facebook was assessed by asking participants how many days per week, and how many minutes per day, they typically spend using Facebook. These values were multiplied to yield use in minutes per week.

## **2.4. Analytic Approach**

### **2.4.1. Data Cleaning**

For each scale, we imputed item-level missing data for participants with up to 25% of values missing. This approach was chosen because it does not assume equal item means and inter-item correlations, which are typically untenable in psychological research (Enders, 2017). Missing data at the item level was very rare. Excluding cases where participants did not complete any items in a scale (e.g., participants who exited the survey before completing all measures), the rate of missing data at the item level ranged from 0.04% to 0.39%. Because missing data was only imputed for participants who completed least 75% of items on a scale, the amount of imputed data in the final data set was 0.08%. Inspection of QQ plots and histograms for each variable revealed some visible deviations from normality. Specifically, self-disclosure was somewhat positively skewed (1.22), and time spent using the group displayed substantial positive skew (4.76) and kurtosis (43.1). All other skew and kurtosis values were between -1 and 1. All variables were mean-centred prior to analysis in order to make intercepts more interpretable. Interaction terms for stigma consciousness and identity importance were created by multiplying participants' mean-centred scores on these variables by their scores on perceived similarity (Edwards & Lambert, 2007).

### **2.4.2. Main Analyses**

We used path analysis to test the hypothesized relationships between variables. Path analysis consists of the structural model component of structural equation modeling and uses observed variables rather than latent scores (Ullman, 2013). We chose to use path analysis rather than full SEM with latent variables because 1) all scales used had adequate reliability

in this study and have demonstrated good psychometric properties in past research, and 2) it avoids some of the issues involved in testing interactions with latent variables (e.g., selecting indicators; F. Li et al., 1998). In this case, observed variables were scale scores for all variables except time spent using the group and Facebook, where the observed variables were use in minutes per week. The primary advantage of path analysis over other analytic techniques (e.g., multiple regression) is its ability to model complex relationships, particularly those involving multiple outcome variables, and to estimate all relationships simultaneously (Ullman, 2013). Additionally, path analysis can handle missing data and univariate and multivariate non-normality through the use of robust estimation methods (Ullman, 2013). Specifically, we used maximum likelihood estimation with robust Huber-White standard errors and a scaled Yuan-Bentler test statistic. The Yuan-Bentler test statistic is robust to violations of normality (Yuan & Bentler, 1998), and robust Huber-White standard errors protect against bias due to non-normality and model misspecification (Lai, 2019).

To make full use of the data available, we included data from all participants who completed at least 75% of items (thereby providing usable scale scores) for each of the primary predictor (perceived similarity) and outcome variables (sense of belonging and perceived availability of social support). This approach has two advantages: 1) it maximizes statistical power by using all available data, and 2) it reduces possible bias resulting from systematic differences between participants who completed the survey and participants who exited before completion (Enders, 2017). The rate of scale-level missing data ranged from 0% (AH, MSPSS, and GBS) to 15.2% (SCQ). The use of maximum likelihood estimation allows the inclusion of participants with missing scale-level data (Rosseel, 2012).

The hypothesized model was tested using the *lavaan* package (version 0.6-7; Rosseel, 2012) in RStudio running R version 4.0.2 (R Core Team, 2020). Initially, the model could not be fit due to inequality in observed variances. Specifically, the observed variances of time

spent using the group ( $4.7 \times 10^4$ ), time spent using Facebook ( $5.0 \times 10^5$ ), the stigma consciousness interaction term ( $1.9 \times 10^5$ ), and the identity importance interaction term ( $2.1 \times 10^4$ ) were all several orders of magnitude larger than the other variables (all  $< 200$ ). Because changing the scaling of variables alters their variance, we rescaled these four variables. Time spent using both the group and Facebook use was divided by 60 to yield use in hours per week, and both interaction terms were divided by 10. This successfully reduced the inequality in group variances (all variances  $< 200$ ) and enabled the model to be fit.

Study hypotheses and analytic methods were pre-registered with the Open Science Framework under the DOI 10.17605/OSF.IO/YCQJU. To test each hypothesis, we examined the relevant regression coefficients in the path analysis model. Because the model contains two outcome variables, each hypothesis was tested using two regression coefficients. Hypotheses were considered supported if both coefficients were significantly different from zero in the hypothesized direction at the  $p < .05$  level. They were considered partially supported if only one coefficient met these criteria. Finally, overall model fit was assessed using the chi-square statistic, robust Comparative Fit Index (CFI) and robust Root Mean Square Error of Approximation (RMSEA; Ullman, 2013). The model was considered to have good fit if it met the conventional criteria of  $p > .05$  ( $\chi^2$ ), CFI  $> .90$ , and RMSEA  $< .08$ . It was considered to have adequate fit if one or two of these criteria were met. Based on Kline's (2016) recommendations, we also report the standardized root mean residual (SRMR), which indicates good fit when it has a value of less than .08.

## **Chapter 3: Results**

### **3.1. Sample and Demographics**

A total of 744 participants (424 SHT, 320 SMT) responded to the survey. Participants who were ineligible (11 SHT, 6 SMT) or who did not provide sufficient data on the primary variables (171 SHT, 92 SMT) were removed, leaving 464 responses (242 SHT, 222 SMT). Three more responses from the SMT sample were removed because they appeared to be duplicate respondents. Duplicate pairs came from the same IP address and contained one complete response and one incomplete response. As these responses likely reflect individuals who completed the survey after their first incomplete response had expired, the incomplete response from each pair was removed. This yielded a final sample of 461 participants (242 SHT, 219 SMT).

The sample was primarily female (78%; 14% male, 5% non-binary, 8% other), young ( $M = 24.5$  years,  $SD = 5.0$ ), and educated (65% had a postsecondary degree). The most common ethnic identity components were White/European (86%), Chinese (43%), Southeast Asian (18%), Japanese (15%), Latin American (14%), and Filipino (13%). The most common ethnicity combinations were White/European and Chinese (26%) and White/European and Japanese (10%). The average number of ethnicities reported was 2.2 (median = 2), and 76% of respondents had two monoracial parents. The most common countries of both residency and citizenship were the United States (54% residence, 56% citizenship), Canada (19% residence, 20% citizenship), and Australia (13% residence and citizenship), and 24% were citizens of two or more countries. There was considerable diversity in both sexual orientation (56% heterosexual, 26% bisexual, 5% gay or lesbian, 5% asexual, and 8% other) and socioeconomic status (13% highest, 30% higher than average, 39% average, 14% lower than average, 4% lowest; see Table 1).

### **3.2. Hypothesis Testing**

Descriptive statistics and bivariate correlations for all variables can be found in Table 2. There were small-to-moderate correlations between most variables, with larger correlations seen between sense of belonging and perceived availability of social support ( $r = .64$ ) and between active participation and self-disclosure ( $r = .68$ ). While the moderate degree of overlap between active participation and self-disclosure is notable, it is unlikely to threaten the validity of the analyses due to the large sample size and lower correlations between other pairs of exogenous variables (Mason & Perreault, 1991). The hypothesized model was fitted using maximum likelihood estimation with robust Huber-White standard errors. We used Lagrange multiplier tests to identify residual covariances that would improve model fit if allowed to vary (see Appendix; Ullman, 2013). Next, we used Wald tests to identify control variable relationships and residual covariances that could be deleted without significantly changing model fit (Ullman, 2013). Specifically, the control variable time spent on Facebook was removed from the model entirely, and the control variable time spent on the group was used to predict perceived availability of social support, but not sense of belonging. A number of residual covariance parameters were also fixed to zero (see Appendix). Following Ullman's (2013) recommendations, parameters were added and deleted one at a time.

The resulting model (see Table 3 and Figure 1) had adequate fit to the data,  $\chi^2(18) = 68.8$ ,  $p < .001$ , robust CFI = .97, robust RMSEA = .06, SRMR = .07. Although the chi-square value ( $p < .001$ ) did not reach conventional criteria for model fit, large sample sizes may cause even trivial differences between predicted and observed data to result in a significant chi-square value (Ullman, 2013). In this context, the high value of CFI (.97) and the low values of RMSEA (.06) and SRMR (.07) indicate adequate model fit.

In support of hypothesis 1, perceived similarity was significantly positively related to both sense of belonging ( $\beta = 0.51$ , 95% CI [0.44, 0.58],  $p < .001$ ) and perceived availability of social support ( $\beta = 0.38$ , 95% CI [0.30, 0.47],  $p < .001$ ). As predicted in hypothesis 2,



active participation partially mediated the relationship between perceived similarity and the outcome variables. Perceived similarity predicted higher levels of active participation ( $\beta = 0.15$ , 95% CI [0.07, 0.23],  $p < .001$ ), which in turn predicted greater sense of belonging ( $\beta = 0.20$ , 95% CI [0.09, 0.31],  $p < .001$ ) and perceived availability of social support ( $\beta = 0.21$ , 95% CI [0.11, 0.32],  $p < .001$ ). The indirect effect of perceived similarity through active participation was significant and positive for both sense of belonging ( $\beta = 0.03$ , 95% CI [0.01, 0.05],  $p = .009$ ) and perceived availability of social support ( $\beta = 0.03$ , 95% CI [0.01, 0.05],  $p = .006$ ). Self-disclosure also partially mediated the relationship between perceived similarity and perceived availability of social support, but not sense of belonging. Perceived similarity predicted higher levels of self-disclosure ( $\beta = 0.10$ , 95% CI [0.02, 0.18],  $p = .02$ ), and higher self-disclosure predicted greater perceived availability of social support ( $\beta = 0.20$ , 95% CI [0.10, 0.29],  $p < .001$ ) but not sense of belonging ( $\beta = 0.04$ , 95% CI [-0.06, 0.14],  $p = .43$ ). The indirect effect of perceived similarity through self-disclosure was significant for perceived availability of social support ( $\beta = 0.02$ , 95% CI [0.001, 0.04],  $p = .04$ ) but not sense of belonging ( $\beta = 0.004$ , 95% CI [-0.001, 0.01],  $p = .47$ ). Thus, hypothesis 3 was partially supported. The total effect of perceived similarity on sense of belonging, including the direct effect and indirect effects through active participation and self-disclosure, was significant and positive ( $\beta = 0.54$ , 95% CI [0.47, 0.62],  $p < .001$ ). Similarly, the total effect of perceived similarity on perceived availability of social support was significant and positive ( $\beta = 0.44$ , 95% CI [0.35, 0.52],  $p < .001$ ).

Identity importance had a significant, positive main effect on both sense of belonging ( $\beta = 0.15$ , 95% CI [0.06, 0.24],  $p = .001$ ) and perceived availability of social support ( $\beta = 0.09$ , 95% CI [0.005, 0.18],  $p = .04$ ); however, it did not moderate the effect of perceived similarity on either outcome variable (sense of belonging:  $\beta = -0.02$ , 95% CI [-0.10, 0.06],  $p$

= .57; perceived availability of social support:  $\beta = -0.01$ , 95% CI [-0.11, 0.08],  $p = .80$ ). Thus, hypothesis 4 was not supported. Stigma consciousness had a significant, negative main effect on sense of belonging ( $\beta = -0.10$ , 95% CI [-0.18, -0.02],  $p = .02$ ), but not perceived availability of social support ( $\beta = -0.04$ , 95% CI [-0.12, 0.04],  $p = .37$ ). It also did not moderate the relationship between perceived similarity and either outcome variable (sense of belonging:  $\beta = -0.03$ , 95% CI [-0.11, 0.06],  $p = .54$ ; perceived availability of social support:  $\beta = -0.03$ , 95% CI [-0.11, 0.06],  $p = .55$ ). Thus, hypothesis 5 was not supported. Finally, the control variable time spent using the group significantly positively predicted perceived availability of social support ( $\beta = 0.07$ , 95% CI [0.002, 0.15],  $p = .04$ )<sup>1</sup>.

### 3.3. Exploratory Analyses

We conducted exploratory analyses to investigate whether the model displayed structural invariance associated with gender (male vs. female) and ethnicity (multiracial identities that include White heritage vs. multiracial identities that do not include White heritage). This approach constructs separate models for each group and tests whether model fit is improved by allowing model parameters to vary between groups (Ullman, 2013). In this case, we tested whether model fit was improved by allowing variable intercepts (predicted values of the variable at the mean level of all other variables in the model) and regression coefficients (relationships between variables) to vary between groups.

#### 3.3.1. Gender

Analysis of structural invariance associated with gender was restricted to male and female participants, as the number of non-binary participants ( $n = 20$ ) was too small to warrant interpretation. Allowing intercepts to vary between men and women improved model

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<sup>1</sup> The group frequency variable displayed substantial positive skew and included seven outliers ( $z > 3.29$ ). When these values were replaced with 1 unit (minute/week) higher than the next highest score in the data set, the relationship between time spent on group and perceived availability of social support became non-significant ( $\beta = .04$ ,  $p = .27$ ). No other relationships in the model changed significance or direction.

fit,  $\chi^2(10) = 31.3, p < .001$ , but allowing regression coefficients to vary did not result in significant improvement,  $\chi^2(9) = 15.2, p = .08$ . This suggests that the mean levels of variables were different between men and women, but that the relationships between variables did not differ significantly. Men ( $n = 53, b_0 = -6.85, 95\% \text{ CI } [-10.81, -2.90]$ ) reported lower perceived similarity than women ( $n = 304, b_0 = 1.35, 95\% \text{ CI } [.02, 2.67]$ ). The magnitude of the gender difference in perceived similarity was substantial, with men ( $M = 62.6, SD = 14.8$ ) scoring 0.66 standard deviations lower compared to women ( $M = 70.8, SD = 11.8$ ) on the Attitude Homophily scale. No other variable intercepts were significantly different between men and women.

### **3.3.2. Ethnicity**

One limitation of the current literature on multiracial identities and experiences is its focus on multiracial identities that include White heritage, which may obscure unique aspects of multiracial identities that include multiple minority identities (Albuja et al., 2020). Accordingly, we investigated whether participants without White heritage differed in either their mean levels of variables measured in this study or in the relationships between variables, compared to participants with White heritage. Allowing intercepts to vary between participants with White heritage ( $n = 336$ ) and those without White heritage ( $n = 53$ ) did not result in a significant improvement in fit,  $\chi^2(10) = 10.9, p = .36$ . This suggests that neither the mean levels of variables nor the relationship between variables varied significantly based on whether participants' multiracial backgrounds included White heritage.

## **Chapter 4: Discussion**

The results of this study provide important insights into the ways online groups can benefit people with stigmatized identities. This work paints a positive picture of users' engagement with online groups related to a stigmatized or minority identity, indicating that these groups can serve as valuable sources of belonging and social support. It also parallels a growing body of research demonstrating the potential positive outcomes of social media use, and it points to the specific context of groups as a ripe arena for beneficial interactions and outcomes. Perceived similarity emerged as a potential driving factor behind these positive outcomes, as users who viewed others in the group as more similar to themselves reported greater belonging within the group and perceived the group as more available to provide social support. Additionally, the finding that active participation and self-disclosure were linked with better social outcomes suggests that smaller communities like Facebook groups may improve users' psychological outcomes from social media use. Results of this study also point to the importance of individual difference factors like identity importance and stigma consciousness in understanding who may benefit most from online groups. These findings contribute to the literature on social media use, indicating specific contexts, types of engagement, and user characteristics that can promote positive outcomes.

### **4.1. Perceived Similarity and Social Support Outcomes**

Participants who reported feeling more similar to other group members experienced greater belonging in online groups for multiracial people. They also perceived other members of the group as better able to provide social support. These findings provided support for hypothesis 1. The moderately large effect sizes for these relationships ( $\beta = 0.51$  for sense of belonging and  $\beta = 0.38$  for perceived availability of social support) suggest that perceived similarity may be a critical variable in understanding social support outcomes in online groups for multiracial people. In fact, perceived similarity was a stronger predictor of social

support outcomes than any other variable in the current study. This finding aligns with Turner et al.'s (1987) self-categorization theory, which proposes that social categories are relevant to a number of interpersonal processes, including social support provision and receipt. Indeed, previous research drawing on this theory indicates that social support is more likely to occur and is perceived more positively when the provider and receiver are members of the same social category (e.g., Haslam et al., 2004, 2012; Levine et al., 2005; Levine & Thompson, 2004). The present study extends this line of work by demonstrating that similarity and social categories are also relevant to support processes in online contexts.

In addition to aligning with self-categorization theory, the results of this study also provide support for the SIDE model, which posits that social categories are particularly relevant to online contexts (Reicher et al., 1995). Although the SIDE model was developed in the context of pre-social media computer-mediated communication, the results of this study suggest that it is still highly relevant. These findings also parallel more recent work on similarity in online contexts, which have found that similarity is both a reason users seek social relationships online and a driver of positive psychological outcomes in online contexts (Antheunis et al., 2012; DeHaan et al., 2013; Malloch & Zhang, 2019; Zhou, 2011).

#### **4.2. Active Participation and Self-Disclosure**

The current study also helps to explain why perceived similarity may have such potent effects on perceptions of support within the context of online groups. Specifically, the effect of perceived similarity on perceived availability of social support was partially mediated by both active participation and self-disclosure (supporting hypothesis 2), while the effect of perceived similarity on sense of belonging was partially mediated by active participation but not self-disclosure (partially supporting hypothesis 3). The mediating effect of active participation on both outcome variables supports and extends Zhou's (2011) finding that people who identify strongly with an online group report greater participation intentions.

To our knowledge, the current study is the first to demonstrate an association between perceived similarity and self-reported active participation (i.e., beyond participation intentions). The finding that more active online participation promotes better social outcomes also adds to a growing body of research demonstrating that active (vs. passive) participation on social media is associated with more positive outcomes like decreased depression, loneliness, and anxiety and greater wellbeing (Escobar-Viera et al., 2018; Frison & Eggermont, 2016; S. Lin et al., 2020; Marengo et al., 2021; Seo et al., 2016; Thorisdottir et al., 2019). In addition to having positive direct effects on support outcomes, active participation may also contribute to an upward spiral of increased engagement, belonging, and support availability within groups. Active participation may lead people to feel like they belong and like other users are available to support them, which can in turn contribute to more active engagement. This could create an upward spiral of positive psychological outcomes and active participation, reflecting the potential for social media groups to serve as valuable sites of social interaction and support.

The finding that self-disclosure partially mediated the relationship between perceived similarity and perceived availability of social support also helps to explain why perceived similarity can produce such positive social support outcomes within online groups. This finding parallels past research on self-disclosure in online support groups (Yang et al., 2018) and on social media generally (Huang, 2016; Luo & Hancock, 2020; Pang, 2018). The association between self-disclosure and greater perceived availability of social support in the current study is particularly noteworthy, given that self-disclosure on social media is not always met with supportive responses (Luo & Hancock, 2020; Ziegele & Reinecke, 2017). This indicates that online groups may serve as safe spaces for members to disclose sensitive or personal information and receive supportive responses.

Like active participation, self-disclosure may also be part of an upward spiral of positive psychological outcomes. In a study of Facebook users, Walsh et al. (2020) found that users who perceived their network as more responsive (a construct similar to perceived availability of social support) disclosed more on the platform. Similarly, Luo and Hancock's (2020) proposed model of self-disclosure in online contexts specifies a bidirectional relationship between disclosure and wellbeing. This suggests that people who see a group as able to provide social support will disclose more, and that self-disclosure can further increase perceived availability of support and other positive outcomes.

Lastly, and in contrast to study hypotheses, self-disclosure was not a mediator of the relationship between perceived similarity and sense of belonging. The lack of a significant relationship between self-disclosure and sense of belonging may be attributable to the typically infrequent nature of self-disclosure. Participants in this study reported relatively low levels of self-disclosure ( $M = 16.3$ ,  $SD = 7.5$ , scale range = 10-50), and the distribution of the variable was moderately positively skewed (skew = 1.22). The fact that self-disclosure occurs infrequently and in discrete instances (compared to continually experienced factors like active participation) may contribute to its different effects on the two outcome variables. Receiving positive responses to an emotional disclosure may lead someone to believe that support will be available in the future, but it may not contribute to more global outcomes like sense of belonging or general wellbeing (K.-T. Lee et al., 2013).

#### **4.3. Identity Importance and Stigma Consciousness**

In addition to exploring the mechanisms by which perceived similarity can lead to support outcomes in online groups, this study also took the important step of identifying sources of individual difference that may help explain which users benefit most from online group use. Specifically, it tested the effects of two characteristics related to stigma – the extent to which someone views a stigmatized identity as important and the extent to which

they expect to be stereotyped or discriminated against based on that identity. While stigma consciousness and identity importance have been studied in offline contexts, there has been little research on their effects on the online experiences of people with stigmatized identities.

Participants who scored higher on identity importance reported a greater sense of belonging and availability of support from the SMT and SHT Facebook groups. This finding parallels research on identity importance in offline contexts. Across a variety of stigmatized and minority identities, high levels of identity importance predict social wellbeing and related variables. For example, identity importance is associated with fewer depressive symptoms and higher self-esteem among ethnic minority university students (Forrest-Bank & Cuellar, 2018), greater psychological wellbeing among people with hearing loss (Chapman & Dammeyer, 2017), and protection against the negative effects of discrimination among transgender people (McLemore, 2018). This research extends these findings to online spaces and to the context of multiracialism.

While people who viewed their multiracial identity as more important experienced more positive social support outcomes from the group, contrary to study hypotheses, this effect did not depend on the extent to which they perceived others in the group as similar to themselves. One potential explanation for this finding is the fact that the majority of participants viewed their multiracial identity as highly important. Only 8% of participants had identity importance scores below the scale midpoint (“neither agree nor disagree”), indicating that nearly all respondents viewed their multiracial identity as important. This ceiling effect, in which values on the identity importance value were concentrated near the top of the scale, may have influenced the moderation analysis (Šimkovic & Träuble, 2019). Testing this hypothesis in a sample that includes participants who do not view their multiracial identity as important may yield a more certain, unbiased conclusion. At the same time, past research indicates that online groups can foster identity development (DeHaan et al., 2013) and



collective identity (Wentzer & Bygholm, 2013). Together with the high levels of identity importance observed in this study, this suggests that people who choose to participate in online groups (and particularly people invested enough to participate in research related to those groups) tend to view the associated identity as important. Thus, the hypothesized moderating effect may not be relevant to contexts where most members of a group view an identity as highly important.

Similarly, the association between perceived similarity and support outcomes did not vary based on participants' expectations that others would stereotype them (i.e., stigma consciousness). However, users with higher levels of stigma consciousness experienced less belonging within the group. The negative relationship between stigma consciousness and belonging was unexpected and may be attributable to the broader association that has been found between stigma consciousness and general psychological distress and lack of belonging. For example, part-White biracial individuals with higher levels of stigma consciousness associated with their minority identity experience lower levels of belonging around White people (Wilton et al., 2013). An overwhelming majority (96%) of participants in the current study reported living in a Western country with predominantly White populations (most commonly the United States, Canada, and Australia). This suggests that those with higher levels of stigma consciousness may experience a lack of belonging in their offline lives and this may spill over into their online lives.

The lack of support for the hypothesized moderating effect of stigma consciousness may also be linked to the specific measure used. The Stigma Consciousness Questionnaire (SCQ; Pinel, 1999) has primarily been used with women, ethnic minorities, and people with disabilities. Some of the items (e.g., "Most [non-stigmatized group] people have a problem viewing [stigmatized group] people as equals") measure the extent to which a stigmatized person believes they are viewed or treated as inferior, something that may not be as relevant

to the context of multiracialism. Instead, the stigma of multiracialism is more closely linked to exclusion than to perceptions of inferiority (Johnston & Nadal, 2010; Nadal et al., 2013). Thus, developing a measure of stigma consciousness specific to multiracialism may be a necessary first step to further investigating its role in social support processes.

#### **4.4. Exploratory Analyses**

The exploratory analyses of structural invariance suggested that there were minimal differences in the study findings based on gender and ethnic heritage. Specifically, neither the mean level of variables nor relationships between variables differed based on whether participants' multiracial identities included White heritage. While relationships between variables did not differ significantly between men and women, men viewed themselves as significantly less similar to others in the group than women. A likely explanation for this finding is the gender imbalance in respondents: Out of the 377 participants who reported their gender, only 53 (14%) were male. Assuming that respondents were reasonably representative of the gender makeup of the groups, men are a significant minority. As gender is a salient social identity in many contexts, this gender imbalance may be driving men's tendency to see themselves as less similar to others in the group.

This finding speaks to the importance of intersectionality when considering social support among groups of people with a stigmatized identity. Intersectionality refers to the meaning and outcomes associated with membership in multiple social categories (Cole, 2009). While intersectionality has not received widespread attention within psychology, researchers in other fields (e.g., sociology, gender studies) have pointed to the potential pitfalls of considering single social categories in isolation. Specifically, research and policy that only considers one social category (e.g., race, gender) at a time is likely to fail to support those with multiple marginalized identities (e.g., women of colour; Cole, 2009). In this research, participants with a gender identity that is underrepresented in the group (i.e., male

participants) experienced lower perceptions of similarity to others in the group. This indicates that people may benefit from social relationships with others who are similar to them on multiple identity dimensions. Social media provides a unique opportunity for social support to become increasingly intersectional, as online groups can target highly specific demographics that incorporate multiple social categories. Thus, the potential for greater intersectionality is another potential advantage to online social support.

#### **4.5. Theoretical and Practical Implications**

The findings of this study have a number of important implications. First, they highlight the potential value of online spaces in providing support to people with minority or stigmatized identities, particularly for users who perceive themselves to be similar to other group members. For a number of reasons, such as geographic distance or lack of access to similar others in one's day-to-day life, people with minority or stigmatized identities may lack support related to that identity in their offline lives. The use of online spaces to connect individuals across geographic lines has been observed among communities of immigrants (Lam, 2014), people with rare diseases (Doyle, 2015; Lasker et al., 2005), and parents of children with rare diseases (Glenn, 2015). The context of multiracialism used in this study suggests that this issue is relevant to a variety of minority and stigmatized identities. While there has been some prior work on stigma-related support online, it has primarily been in the context of concealable identities such as LGBT identities (DeHaan et al., 2013) and chronic illnesses (Kingod et al., 2017; Wentzer & Bygholm, 2013). The finding that perceived similarity is associated with support outcomes among multiracial people, who may be visibly racially ambiguous, suggests that online connections to similar other may be beneficial for people with both concealable and non-concealable stigmatized identities.

Second, the mediation analyses have implications for individuals or groups seeking to facilitate supportive online contexts for people with stigmatized identities. Specifically, the

results of this study indicate that active participation (i.e., engaging directly with other group members through making posts, commenting on others' posts, etc.) and self-disclosure could both be mechanisms by which perceived similarity leads to more positive social support outcomes. Conversely, members who do not feel similar to others in the group are less likely to actively engage and disclose, which reduces the likelihood that they will experience positive support outcomes.

Consequently, characteristics of both the medium and group members could be harnessed to enhance members' social support outcomes. For example, many online groups have facilitators or moderators, who may be able to influence overall group dynamics by modelling active participation and self-disclosure and creating posts that encourage members to participate actively and self-disclose. In addition to promoting support outcomes, this could also enhance perceptions of similarity by facilitating conversations about shared interests or experiences. This type of post can connect members within the group who are even more similar to each other than to the group overall, enabling members to form closer relationships to specific individuals in addition to a general perception of similarity. Additionally, post and comment structures that promote two-way engagement (e.g., nested conversations, ability to tag or notify specific members) may promote active participation. Facebook allows users to reply to specific comments and to tag other users in posts and comments, which both facilitate back-and-forth conversations. In addition to being a form of active participation, this type of interaction can increase perceptions of similarity and be an opportunity for social support provision and receipt.

The medium of online groups can also influence the extent to which members participate actively and disclose information about themselves. Past work on stigmatized identities indicates that anonymity (e.g., pseudonyms or screen names, distance from public-facing profiles, concealment from those outside the group) can promote disclosure of

sensitive information (Andalibi et al., 2018; Sannon et al., 2019). Although many of these features are infeasible on Facebook, where profiles are typically associated with a user's real name, group administrators could use the private group setting to protect privacy and promote disclosure. This setting ensures that group activity and membership are only visible to group members, meaning that a user's posts, comments, and even membership in a group are not visible to their Facebook friends who are not also part of the group (*Privacy Options for Facebook Groups*, n.d.). Administrators can also make efforts to ensure that only people with the group's focal identity are able to join, although this may be difficult in practice (Sannon et al., 2019).

Finally, social presence theory (Short et al., 1976; Walther, 2011) suggests that digital nonverbal communication tools (e.g., emoji, images, animated GIFs) may increase feelings of social presence and community, thereby providing more opportunities for emotional self-disclosure. Facebook has built-in features that enable users to share emojis, GIFs, and personalized stickers (i.e., still or animated avatars), which can all provide more opportunity for emotional expression than text alone. Group administrators and members could harness these tools to enhance feelings of community and to facilitate active participation and self-disclosure, which can in turn contribute to positive support outcomes.

Next, the high level of identity importance found in this sample suggests that online groups are relevant to identity exploration and development. Participants in this study viewed their multiracial identity as highly important ( $M = 23.6$ ,  $SD = 3.8$ , scale range = 6-30), with 92% of participants scoring higher than the scale midpoint ("neither agree nor disagree") on the Multigroup Ethnic Identity Measure – Revised (Phinney & Ong, 2007). This finding is even more important given the age range of the study sample. The majority of participants (87%) were young adults between the ages of 18 and 29, which is a developmental period characterized by identity exploration and formation (Schwartz et al., 2013). In the specific

context of multiracial identity development, young adulthood is also a time when many multiracial people transition towards more diverse spaces and have more positive experiences related to their multiracial or multicultural identities (Jackson, 2009). As a result, it is often a critical period in which multiracial identities become less associated with exclusion or difference and more associated with the positive aspects of embracing multiple racial or cultural backgrounds.

Social media use is also very prevalent among young adults (*Social Media Fact Sheet*, 2019; Villanti et al., 2016), and past research on identity development and online communities has focused specifically on youth and young adults (e.g., DeHaan et al., 2013). Work on LGBT identity development and Internet or social media use (e.g., Bates et al., 2020; Craig & McInroy, 2014; DeHaan et al., 2013; Fish et al., 2020) suggests that online spaces may be important components of identity development for youth and young adults with a stigmatized or minority identity. Although this study did not examine outcomes of online group use for users under 18, results suggest that participation in safe, supportive online spaces could also benefit adolescents with stigmatized or minority identities. Adolescents often experience practical barriers to identity exploration in offline spaces, such as smaller and more homogenous social networks (Jackson, 2009) and lack of access to supportive organizations and individuals (Doty et al., 2010; Fish et al., 2020). There has been little research on social media and other online spaces as sites for identity exploration among adolescents with stigmatized identities, yet similar research with young adults indicates that it may be beneficial.

This study also has implications for the field of cyberpsychology more broadly. Researchers in this field have typically investigated the effects of technology use on the general population, which may miss out on important phenomena in specific subpopulations. Past research (e.g., Andalibi et al., 2018; DeHaan et al., 2013; McKenna & Bargh, 1998)

indicates that people with stigmatized identities may be particularly likely to seek out community and social support online. Furthermore, the effects of online interactions may differ based on whether someone has a stigmatized identity or is seeking out stigma-related support, as people may not have access to stigma-related support in their offline lives (Andalibi et al., 2018; DeHaan et al., 2013; McKenna & Bargh, 1998; Sannon et al., 2019). Thus, cyberpsychology would benefit from a more nuanced perspective on online social support, including a focus on people with stigmatized identities and other subpopulations who may experience different social processes and outcomes online than the general population.

This study also indicates the need for a greater focus on positive outcomes that may result from social media use. Despite the abundance of research on social media use, there has been a lack of work that directly investigates healthy use and potential positive outcomes. As both the prevalence of social media use and daily time spent on social media have increased rampantly in the past decade (Clement, 2019, 2020a), research that investigates and promotes healthy online engagement is becoming increasingly critical. Furthermore, the increasing integration of social media into daily life suggests that encouraging positive social media habits may be more beneficial than suggesting that people abstain from social media use altogether. In this sense, understanding factors that enable healthy social media use is just as important as recognizing its potential negative effects. This research indicates that social media can be used in ways that increases users' sense of belonging and perceptions of social support availability, which may have broader positive effects on physical and psychological health. Consequently, the field of cyberpsychology may benefit from a greater consideration of types of social media use that promote wellbeing, social connection, and other positive outcomes among users.

Finally, this study contributes to the literature on stigma and stigmatized. Past research (e.g., Frable et al., 1998; Murphy et al., 2007; Sekaquaptewa & Thompson, 2003) indicates that physical proximity to others who share one's stigmatized identity is associated with more positive self-perceptions, greater positive affect, less anxiety and depression, decreased identity threat, and greater belonging. The results of this study suggest that these findings can be extended to online spaces. While there has been research on the development of stigmatized identities in online contexts (e.g., Bates et al., 2020; DeHaan et al., 2013; Wentzer & Bygholm, 2013), this study provides novel evidence that stigma-related interpersonal processes (e.g., self- and other perception, social support) may be similar in online and offline spaces.

#### **4.6. Strengths, Limitations, and Future Directions**

In addition to its novel and important findings, a major strength of this study was the use of pre-registration. Pre-registering hypotheses and analytic methods is a relatively new and underutilized practice in social psychology, but it provides a number of important advantages. First, it encourages theoretically driven research designs (van t' Veer & Giner-Sorolla, 2016). In this study, we presented a model driven by theories developed in both offline (e.g., self-categorization theory, Turner et al., 1987; minority stress theory, Meyer, 2003) and online contexts (e.g., the SIDE model, Reicher et al., 1995; social presence theory, Short et al., 1976; Walther, 2011). Specifying hypotheses prior to data analysis provided a rigorous test of these theories in the context of Facebook groups for multiracial people. Second, pre-registration increases methodological rigour by reducing reporting bias (van t' Veer & Giner-Sorolla, 2016). In this study, pre-registration ensured transparency in both analytic methods and reporting of results, including those that did not support our hypotheses. Thus, the use of pre-registration was a major strength of this study, reflecting its theoretically driven design and increasing its transparency and methodological robustness.



Another strength of this study was the large ( $N = 461$ ) and diverse sample. The large sample size provided adequate statistical power, as well as a greater level of diversity compared to other research on multiracial identity and experiences. While the majority of past research has focused on Black/White biracial individuals (Charmaraman et al., 2014), this study included participants with a variety of ethnic identities. It also included a number of individuals with multiracial identities that did not include White heritage ( $n = 53$ , 14% of participants who reported their ethnicities), who are typically underrepresented in or excluded from research on multiracial people (Albuja et al., 2020). Finally, it included a large number of participants who lived outside the United States ( $n = 176$ , 46% of participants who reported their country of residence), most commonly residing in Canada, Australia, and the United Kingdom. This contrasts with the predominant focus on the United States in multiracial research (Charmaraman et al., 2014) and provides a more representative picture of multiracial people's experiences in Western contexts.

This study has several limitations. First, the study population was restricted to members of two English-based Facebook groups, and the majority of participants lived in predominantly White, English-speaking countries. While the number of participants residing in non-Western countries was too low to analyze directly, comparisons between participants with White heritage vs. those with multiple minority identities revealed no significant differences in either mean levels of variables or relationships between variables. At the same time, the processes described in this study may differ for multiracial people in non-Western contexts, particularly those with stronger taboos or restrictions against interracial relationships. Second, the sample used was probably not representative of all members of the Facebook groups, but likely overrepresented those with high levels of commitment and participation who were most likely to visit the group and see the recruitment ad. Nevertheless, there was enough variability in the data to examine relationships between

variables, even if people who answered the survey likely differed from those who did not see it or chose not to participate.

In addition to sample characteristics, the associations between similarity, types of use, and social support are likely bidirectional, and the cross-sectional design of this study precludes causal inferences. Further research using longitudinal and experimental methods could help to better establish causal relationships among these variables. At the same time, this research provides important information about associations between variables related to online group use and can be used as a starting point for future investigations. Finally, this study did not specifically examine negative experiences in online groups, such as support attempts that fail, critical comments, or being ignored. While past research indicates that negative experiences on social media are relatively rare compared to positive experiences, they have a disproportionate impact on feelings of isolation (Primack et al., 2019). Thus, negative experiences may be an important variable to consider in future work on social support processes in online groups.

In addition to addressing these limitations, future research could investigate the relationships between variables in this study in a longitudinal manner. Specifically, while users may feel some degree of similarity to other members when they first join a group, this sense of similarity likely changes over time. Future research could therefore investigate how different trajectories of perceived similarity influence social support outcomes over time. As mentioned previously, online groups can be instrumental in identity development and exploration, so future research could also examine how online group use shapes members' identities. Finally, as past work (Fullwood et al., 2019) has also pointed out the importance of viewing participation as a process rather than a steady state, future research could examine how active and passive participation change over time and interact with other related variables. Research that identifies typical trajectories of these variables could help establish

causal relationships (e.g., whether greater participation results in higher levels of identity importance, or vice versa) and provide deeper insight into the interplay between identity, online group participation, and online and offline psychological outcomes.

Second, future research could examine the impact of passive online group use on social support outcomes. While this study indicates a positive effect of active participation, it did not test for associations between passive use and other variables in the model. Active and passive social media use were moderately positively correlated in the sample used to develop the PAUM ( $r = .44$ ; Frison & Eggermont, 2015), indicating that there is considerable variation in levels of passive use among social media users with the same level of active use. While passive use is associated with negative outcomes in the context of general social media use (Chen et al., 2016; Frison & Eggermont, 2015, 2016), research has not yet investigated the effects of passive use in online groups for people with stigmatized identities. Sannon et al.'s (2019) finding that people with chronic illness experience increased emotional wellbeing and empowerment through passive social media use indicates that passive use may be beneficial in certain contexts. As Sannon et al. (2019) used a small sample of people whose active social media use was limited by pain and other symptoms, future research could investigate this on a larger scale and in the context of other stigmatized identities.

Future research could also test the efficacy of online group-based support interventions for people who lack support in their offline lives, particularly in the context of stigmatized identities. Social support is a critical determinant of both physical (Holt-Lunstad et al., 2010; Uchino, 2006) and psychological health (Chu et al., 2010; Siedlecki et al., 2014). Although the cross-sectional design of this study precludes causal inferences, both self-categorization theory (Haslam et al., 2012; Turner et al., 1987) and the SIDE model (Reicher et al., 1995) suggest that perceptions of similarity are a driving factor behind social support outcomes. Taken together, these theoretical perspectives and findings from the current study

suggest that online communities could be an effective source of support for people who lack support in their offline lives, whether that is due to geographic distance, stigma, or other constraints. In particular, the anonymity available in online spaces may make online interventions particularly effective for people who have not broadly disclosed a concealable stigmatized identity (e.g., LGBT identities, histories of abuse, political or ideological beliefs, etc.; Andalibi et al., 2018; DeHaan et al., 2013; Doty et al., 2010; McKenna & Bargh, 1998). Online support interventions may also be an appealing option for people in rural areas or others who are geographically separated from similar others (e.g., ethnic, religious, or cultural minorities, people with rare diseases, etc.). Thus, the findings of this study suggest that online groups, particularly those for people with stigmatized identities, are a ripe area for further research and support-based interventions.

Finally, future research could investigate the extent to which stigma-related support received online provides benefits that extend offline. There has been very little research on the effects of online group participation on offline outcomes, such as offline connections to similar others, perceived stigma and discrimination in offline contexts, and general wellbeing and belonging. A direct, ideally longitudinal investigation into offline outcomes of online group use could provide a deeper understanding of the effect of online group participation on users' lives more broadly. As technology use becomes more prevalent, frequent, and integrated into daily life, research into the interplay between online and offline processes will become increasingly critical. Thus, future research could investigate offline factors that interact with the variables and processes described by this study.

#### **4.6. Conclusion**

In summary, this study provides empirical support for a model that aims to predict social support outcomes of online group membership. Among users of Facebook groups for multiracial people, perceived similarity is positively associated with social support outcomes. Active participation and self-disclosure act as mediators in the relationship between similarity and support outcomes. Finally, people who view their multiracial identity as highly important also report better social support outcomes compared to people who do not see their multiracial identity as particularly important. This study has a number of important implications both for research and for users of social media and online groups.

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## Tables

**Table 1**

*Demographic Variables*

<b>Variable</b>	<b>Percentage</b>
<b>Ethnicity components*</b>	
White/European	86
Chinese	43
Southeast Asian	18
Japanese	15
Latin American	14
Filipino	13
Black	8
Korean	8
Jewish	6
South Asian	5
North American Indigenous	3
West/Central Asian	3
Central/South American Indigenous	2
Arab	1
<b>Ethnicity combinations</b>	
White/European and Chinese	26
White/European and Japanese	10
White/European and Southeast Asian	9
White/European and Filipino	6
White/European and Korean	5
White/European, Chinese, and Southeast Asian	3
White/European and South Asian	3
Other	38
<b>Heritage</b>	
Both parents monoracial	76
Grandparents monoracial, but one or both parents multiracial	9
At least one grandparent multiracial	9
Other	6
<b>Gender</b>	
Female	78
Male	14
Non-binary	5
Other	3

<b>Variable</b>	<b>Percentage</b>
<b>Sexual orientation</b>	
Heterosexual	56
Bisexual or pansexual	26
Gay or lesbian	5
Asexual	5
Other	8
<b>Education</b>	
Less than high school	0
High school	6
Some college or university	22
College diploma or associate's degree	4
Bachelor's degree	47
Graduate or professional degree	18
Other	3
<b>Employment*</b>	
Employed full-time	35
Employed part-time	21
Self-employed	7
Full-time student	40
Part-time student	5
Unemployed	12
Stay-at-home parent	1
Disability or medical leave	1
Other	4
<b>Socioeconomic status</b>	
Highest (80-99 <sup>th</sup> percentile)	13
Higher than average (60-79 <sup>th</sup> percentile)	30
Average (40-59 <sup>th</sup> percentile)	39
Lower than average (20-39 <sup>th</sup> percentile)	14
Lowest (0-19 <sup>th</sup> percentile)	4
<b>Nationality*</b>	
USA	56
Canada	20
Australia	13
UK	9
New Zealand	4
Japan	3
Other	16

<b>Variable</b>	<b>Percentage</b>
<b>Residence</b>	
USA	54
Canada	19
Australia	13
UK	5
New Zealand	3
Other	6

*Note: \*Percentages may add up to more than 100 as participants could select more than one response*

**Table 2***Descriptive Statistics and Bivariate Correlations*

Variable	Mean	SD	MSPSS	AH	PAUM	SDI	MEIM-R	SCQ	Time spent on group	Time spent on FB
GBS	45.37	8.64	.64***	.58***	.34***	.26***	.35***	.04	.12*	.02
MSPSS	26.09	6.45	-	.47***	.46***	.43***	.32***	.11*	.26***	.05
AH	69.44	12.49	-	-	.18***	.11*	.29***	.12*	.06	.02
PAUM	13.03	3.40	-	-	-	.68***	.30***	.21***	.46***	.19***
SDI	16.29	7.51	-	-	-	-	.24***	.13**	.37***	.13*
MEIM-R	23.58	3.76	-	-	-	-	-	.22***	.12*	.04
SCQ	44.83	10.28	-	-	-	-	-	-	.11*	.14**
Time spent on group	56	69	-	-	-	-	-	-	-	.29***
Time spent on FB	288	223								-

Note: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . GBS: sense of belonging (General Belongingness Scale,  $n = 461$ , scale range = 9-63). MSPSS:

perceived availability of social support (Multidimensional Scale of Perceived Social Support,  $n = 461$ , scale range = 6-42). AH: perceived

similarity (Attitude Homophily,  $n = 461$ , scale range = 15-105). PAUM: active participation (Passive and Active Use Measure, Active Social

subscale,  $n = 460$ , scale range = 6-30). SDI: self-disclosure (Self-Disclosure Index,  $n = 441$ , scale range = 10-50). MEIM-R: identity importance

(Multigroup Ethnic Identity Measure – Revised,  $n = 394$ , scale range = 6-30). SCQ: stigma consciousness (Stigma Consciousness

Questionnaire,  $n = 391$ , scale range = 10-70). Time spent on group: minutes per week spent on the SHT or SMT Facebook group. Time spent on

FB: minutes per week spent on Facebook.

**Table 3***Model Parameters for Path Analysis Model*

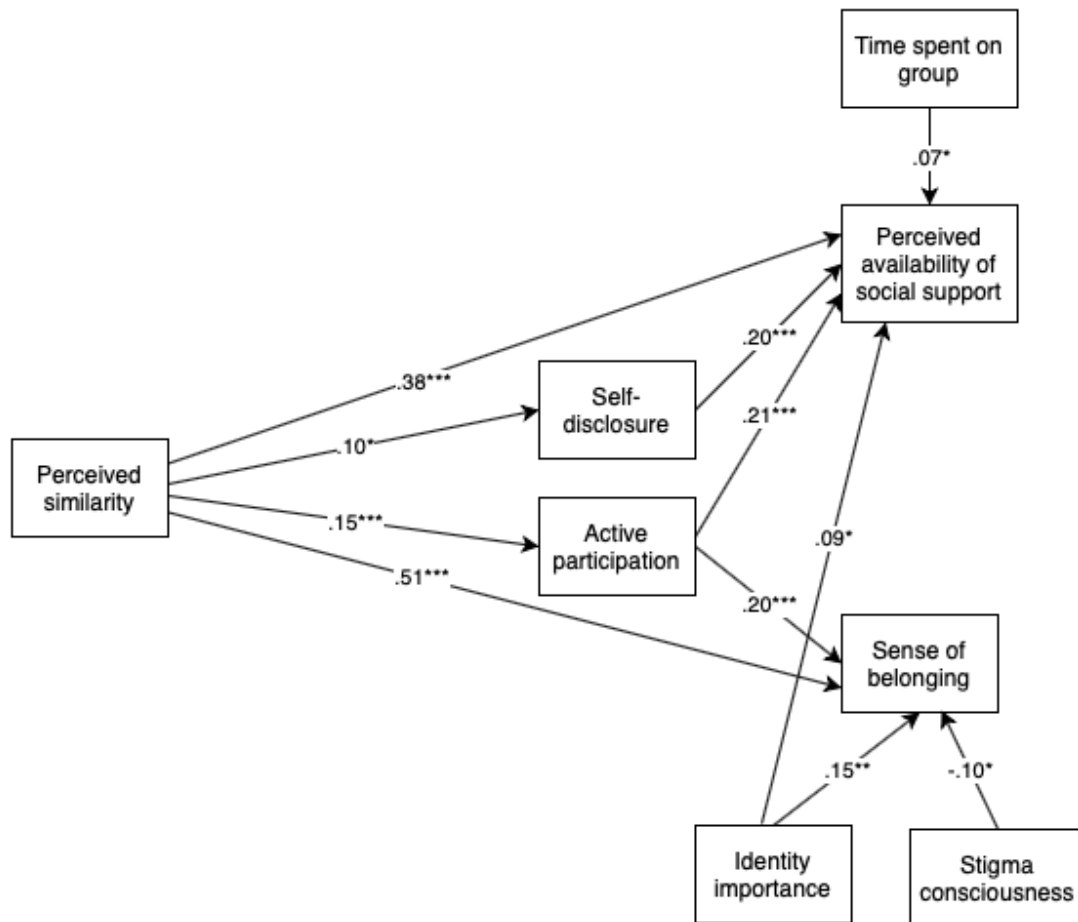
Parameter	Estimate	Standardized estimate
<b>Regression coefficients</b>		
<i>Sense of belonging</i>		
Perceived similarity	0.350	0.510***
Active participation	0.503	0.198***
Self-disclosure	0.046	0.041
Stigma consciousness	-0.083	-0.099*
Identity importance	0.340	0.150**
Perceived similarity x stigma consciousness	-0.016	-0.025
Perceived similarity x identity importance	-0.044	-0.023
<i>Perceived availability of social support</i>		
Perceived similarity	0.196	0.384***
Active participation	0.400	0.211***
Self-disclosure	0.170	0.198***
Stigma consciousness	-0.022	-0.036
Identity importance	0.158	0.093*
Perceived similarity x stigma consciousness	-0.012	-0.026
Perceived similarity x identity importance	-0.016	-0.012
Time spent using group	0.411	0.074*
<i>Active participation</i>		
Perceived similarity	0.041	0.150***
<i>Self-disclosure</i>		
Perceived similarity	0.059	0.099*
<b>Covariances</b>		
Sense of belonging – perceived availability of social support	14.36	0.438***
Perceived similarity – stigma consciousness	15.07	0.118*
Perceived similarity – identity importance	13.71	0.292***
Stigma consciousness – identity importance	8.27	0.214***
Self-disclosure – active participation	16.51	0.668***
Self-disclosure – time spent using group	3.13	0.369***
Active participation – time spent using group	1.74	0.455**

Note: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

## Figures

**Figure 1**

*Path Diagram*



*Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . Coefficients are standardized regression weights.*

*Non-significant paths and residual covariances omitted for clarity (see Table 3 for all parameters).*

## Appendix

**Table A1**

*Wald Test Results for Path Analysis Model*

Parameter	W
<b><i>Regression coefficients</i></b>	
<i>Sense of belonging</i>	
Time spent on Facebook	0.46
Time spent on the group	0.30
<i>Perceived availability of social support</i>	
Time spent on Facebook	0.64
Time spent on the group	4.02*
<b><i>Residual Covariances</i></b>	
Sense of belonging – perceived availability of social support	47.42***
Perceived similarity – stigma consciousness	4.28*
Perceived similarity – identity importance	36.46***
Perceived similarity – perceived similarity x stigma consciousness	0.47
Perceived similarity – perceived similarity x identity importance	1.80
Perceived similarity – time spent on group	2.29
Stigma consciousness – identity importance	14.17***
Stigma consciousness – perceived similarity x stigma consciousness	1.82
Stigma consciousness – perceived similarity x identity importance	0.02
Stigma consciousness – time spent on group	1.06
Identity importance – perceived similarity x stigma consciousness	0.11
Identity importance – perceived similarity x identity importance	1.75
Identity importance – time spent on group	0.23
Perceived similarity x stigma consciousness – perceived similarity x identity importance	0.52
Perceived similarity x stigma consciousness – time spent on group	0.04
Perceived similarity x identity importance – time spent on group	0.85
Self-disclosure – active participation	98.65***
Self-disclosure – time spent on group	14.95***
Active participation – time spent on group	9.96**

*Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . Paths with non-significant ( $p > .05$ ) W-values were removed from the model.*