PERCEPTIONS OF RURALITY, PLACE ATTACHMENT, PSYCHOLOGICAL SENSE OF COMMUNITY, AND BELONGING: A MODERATED MEDIATION MODEL PREDICTING RURAL MENTAL HEALTH OUTCOMES

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PERCEPTIONS OF RURALITY, PLACE ATTACHMENT, PSYCHOLOGICAL SENSE OF COMMUNITY, AND BELONGING: A MODERATED MEDIATION MODEL PREDICTING RURAL MENTAL HEALTH OUTCOMES

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ABSTRACT

Community plays an important role in rural life, and rural residents have a range of positive and negative experiences with community (e.g., Cromartie et al., 2015; Kennedy et al., 2010, Walker & Raval, 2017). Previous qualitative research with rural participants has described experiences of psychological sense of community (e.g., Wilding & Nunn, 2018), place attachment (e.g., Riethmuller et al., 2021), and belonging (e.g., Caxaj & Gill, 2017) across diverse samples. No research to date has quantitatively measured these constructs simultaneously among rural residents. An ecological systems framework (Bronfenbrenner, 1979) is adopted to conceptualize the influence of sociocultural, demographic, and geographic contexts of rurality on experiences of place, community, belonging, and mental health. The current study sought to add to the understanding of experiences of place and community among rural residents by exploring a conditional mediation model in which place attachment and psychological sense of community are expected to serially mediate the relationship between perceptions of rurality and mental health outcomes, with belonging moderating the indirect effect. Neither the conditional mediation nor serial moderation models were supported by the data. A simple mediation effect for perceptions of rurality predicting well-being through place attachment was supported. In addition, reflecting results of previous research identifying external barriers to sense of community and belonging for those with marginalized identities (e.g., Caxaj & Gill, 2017; Plastow, 2010; Terman, 2014), the proposed study explored demographic group differences among variables of interest.

Results indicated significant differences in study variables across socioeconomic status, sexual orientation, and age. Post-hoc results explored perceptions of community climate toward diversity as well as supported a serial mediation model in which place attachment predicted mental health outcomes through psychological sense of community and belonging. Implications, future research directions, and strengths and limitations are discussed.

DEDICATION

In loving memory of my Dad, who taught me to believe in myself, work hard, and love the people around me. You reflected all the best rural life has to offer, and so much of who I am today is because of you.

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CHAPTER I

INTRODUCTION

Community plays an important role in the lives of rural residents and can have both positive and negative impacts (e.g., Cromartie et al., 2015; Glendinning et al., 2003; Kennedy, 2010). Rural residents have identified community relationships, particularly providing support to one another, as a key part of rural culture (Leipert & George, 2008). Although a rural community can feel tight-knit and mutually supportive for some residents (Walker & Raval, 2017), it can lead to a lack of privacy and feeling restricted from being true to oneself for others (Cromartie et al., 2015; Glendinning et al., 2003). The demonstrated importance of community to rural life, as well as the wide variability in experiences of rural community (e.g., Caxaj & Gill, 2017; Kennedy, 2010), suggest that it may be valuable to further explore both factors that are associated with a sense of community for individuals living in rural areas.

In addition to the importance of community in its own right, research has demonstrated a robust relationship between sense of community and well-being (Stewart & Townley, 2020), including in rural populations (Kutek et al., 2011; Stacciarini et al., 2015). Rates of mental health concerns tend to be similar on average across rural and urban areas in the United States, with 20.5% of adults with any mental illness in nonmetropolitan areas and 19.9% in large metropolitan areas (Center for Behavioral Health Statistics and Quality, 2021). Rural-urban comparisons vary by region and gender,

however (e.g., 3% of men and 5% of women in large metropolitan counties in the South experienced serious psychological distress in the past month compared to 6% of men and 8% of women in nonmetropolitan counties in the South; Meit et al., 2014). In addition, although rates of receiving services are similar across rural and urban areas (Center for Behavioral Health Statistics and Quality, 2021), there are 650 rural geographic areas with a shortage of mental health providers compared to 147 non-rural areas (Health Resources and Services Administration, 2021). Given difficulty accessing mental health care services for rural populations due to limited availability of services, issues such as distance and transportation, and stigma-related concerns in the context of limited privacy in rural communities (Jensen et al., 2020), identifying possible targets for intervention to improve mental health outcomes in rural areas seems essential. Interventions designed and implemented at the community level have been effective in increasing a sense of community among residents (O'Connor, 2013). Thus, studies aimed at developing a greater understanding of how community is experienced in rural areas, contributing factors, and connections with mental health outcomes offer the opportunity for practical implications within rural communities. Specifically, the current study explored the relationships among psychological sense of community (PSOC), perceptions of rurality, place attachment, and belonging in predicting mental health outcomes of well-being and psychological distress in a rural sample.

Overview of Previous Research

Previous research has demonstrated relationships among variables of interest in the current study, although no studies could be identified that included all identified constructs together in either a rural or non-rural sample. Evidence about positive and

negative perceptions of rurality can be drawn from studies about migration into and out of rural areas (e.g., Cromartie et al., 2015; Stockdale et al., 2013; Ulrich-Schad et al., 2013; Vazzana & Rudi-Polloshka, 2019). Positive perceptions of rurality are more likely to be studied among people who currently live in rural areas (e.g., Cromartie et al., 2015; Hlinka et al., 2015), whereas negative perceptions are more likely to be examined and evidenced among people planning to move away from their rural community (e.g., Vazzana & Rudi-Polloshka, 2019) or people who do not live in a rural area (e.g., Glaze et al., 2013). The proposed study will contribute to the literature by measuring perceptions of rurality across a range of factors in a rural sample, rather than assessing only one or a few individual perceptions at a time as many previous studies do (e.g., Rupasingha et al., 2015; Ulrich-Schad, 2016). In addition, to the extent that perceptions of rurality have been assessed quantitatively, research has often used objective, county-level data, rather than subjective impressions (e.g., Rupasingha et al., 2015; Ulrich-Schad, 2016; see Ulrich-Schad et al., 2013 and Theodori & Willits, 2019 for exceptions). Finally, given the proliferation of stereotypes of rural America "as a backwater" and rural residents as "unsophisticated, uncultured, and uneducated" (Lichter & Brown, 2011, p. 570), it seems important to give voice to rural residents to describe how they see rurality themselves by quantitatively measuring their perceptions of rurality.

Within previous research, positive perceptions of rurality have included community life that is friendly, tight-knit, and characterized by individuals working together to solve problems (Cromartie et al., 2015; Kaiser Family Foundation [KFF] 2017; Theodori & Willits, 2019) and access to a high quality of life (i.e., peaceful, safe; Cromartie et al., 2015; KFF, 2017; Kondo et al., 2012). In addition, natural amenities,

such as beautiful landscapes, moderate weather, and access to recreational opportunities are particularly valued in rural areas (Cromartie et al., 2015; Rupasingha et al., 2015; Ulrich-Schad et al., 2013). Finally, rural areas tend to be perceived as a good place to live for raising a family (Cromartie et al., 2015; KFF, 2017), and rural residents may be perceived as self-sufficient and resilient (Cockfield & Botterill, 2012), with self-reliance often seen as necessary due to large distances from other people and formal support systems (Jensen et al., 2020).

Previous literature also highlights negative perceptions of rurality. As noted above, community life in rural areas is perceived negatively by some due to concerns including isolation from larger social networks and a lack of privacy (Cromartie et al., 2015; Kennedy, 2010). In addition, rural areas are often perceived as lacking necessary or desired amenities, ranging from shopping and dining options to medical care (Cromartie et al., 2015; KFF, 2017), and are seen as behind the times (Cockfield & Botterill, 2012; Glaze et al., 2013). Similarly, a lack of opportunity, particularly regarding employment, is associated with rurality (KFF, 2017; Vazzana & Rudi-Polloshka, 2019). Finally, rural communities are often perceived and experienced as intolerant of diversity and associated with experiences of discrimination (e.g., Kennedy, 2010; Rickard & Yancey, 2018).

Psychological sense of community (PSOC) refers to the extent to which one feels that they are a meaningful part of a group that matters to them and meets their needs (McMillan & Chavis, 1986; Sarason, 1974). A range of qualitative and quantitative research conducted with rural samples has provided information about participants' experiences with this construct (e.g., Walker & Raval, 2017; Wilding & Nunn, 2018) and its relationships with other variables (e.g., Kulig et al., 2018; Wolfe et al., 2020). In

particular, research in this area allows for expansion on the ways in which people might experience rural community positively or negatively. Qualitatively, people who report experiencing rural community positively describe residents coming together to support one another, an experience that connects both the supporters with one another and the supporters and supported together; a sense of knowing others and being known; and shared values that unite different groups of people (Cromartie et al., 2015; Herslund, 2021; Walker & Raval, 2017; Wilding & Nunn, 2018). Those who report negative experiences of community describe experiences of discrimination, including racism, classism, and homophobia, that result in feeling distant from the community, actively excluded, and/or unable to live authentically (Kennedy, 2010; Plastow, 2010; Sherman & Sage, 2011). Differences more generally, including differences in family structure (i.e., divorced, single) and being relatively new to the area can result in feeling out of place, alienated, or excluded as well (Watkins & Jacoby, 2007; Patten et al., 2015).

Quantitatively, PSOC has been found to be higher among rural compared to urban participants (Avery et al., 2021; Kitchen et al., 2012; Obst et al., 2001). However, distinct variations within rural areas are evident as well, such that people who are older, have higher SES, are married and have children, and either have a longer history living rurally in their current community or were born in a rural area have stronger PSOC (Avery et al., 2021; Kulig et al., 2018; Wilkinson, 2008). No studies could be identified that measured differences in PSOC along other axes of oppression, such as sexual orientation or race and ethnicity, among rural residents specifically. Finally, previous quantitative research has found that PSOC predicts both mental health outcomes (Kutek et al., 2011) and community engagement (Kulig et al., 2018; Wolfe et al., 2020) among rural residents.

Within non-rural research, PSOC has been supported as both a mediator and a moderator of the relationship between community characteristics and a range of mental health outcomes (Hurd et al., 2013; Lardier, MacDonnell, et al., 2018). The current study adds to the literature by measuring both objective data about one's community, as previous studies have done (e.g., Lardier, MacDonnell, et al., 2018), in addition to individuals' subjective perceptions of rurality more broadly.

Previous research on the next variable of interest, place attachment, or the psychological and emotional relationships that people form with their environments (Scannell & Gifford, 2010; Zahnow & Tsai, 2021), has been more limited in rural areas. Qualitative research with culturally diverse college students from rural hometowns has described important contributors to developing and maintaining place attachment, including positive childhood experiences and memories with the area, a preferred lifestyle offered by one's hometown (e.g., sense of community, raising a family), physical elements of the space, pride in one's roots, contributions to one's sense of identity and personal strengths, and visiting home and otherwise maintaining relationships from home (Pederson, 2018; Riethmuller et al., 2021). Similar to PSOC, research has established differences between urban and rural areas, such that rural residents tend to experience higher levels of various factors of place attachment (Anton & Lawrence, 2014). Quantitatively, rural research has identified predictors of place attachment, but no studies could be found that predicted outcomes of place attachment specifically among a rural sample. Predictors for rural residents include both social (e.g., participation in social networks, deriving meaning of a place from social/community factors) and physical aspects of place and the amount of time lived in one's community

(Anton & Lawrence, 2014; Stedman, 2006). Beyond rural samples, both cross-sectional and experimental research has supported place attachment as a predictor of PSOC (Long & Perkins, 2007; Scannell & Gifford, 2016). The proposed study contributes to gaps in the literature by further exploring within-group differences in place attachment in rural areas along various demographic and identity variables, as well as by exploring outcomes of place attachment among rural populations.

In comparison to both place attachment and PSOC, research on belonging in rural areas is limited. Belonging refers to the feeling that one is an important part of their environment or of meaningful relationships (Baumeister & Leary, 1995; Hagerty et al., 1992). Qualitative research on belonging among rural populations tends to focus on individuals with experiences of oppression that intersect with rurality, including people of color (e.g., Caxaj & Diaz, 2020), individuals with disabilities (Robinson et al., 2020), and LGBTQ+ individuals (Terman, 2014). In general, results support that, like PSOC, experiences of discrimination, including being treated with indifference, confronted by prejudice and stereotypes, and receiving messages that certain community spaces are meant only for individuals with more privilege, lead to a lower sense of belonging (Caxaj & Diaz, 2020; Caxaj & Gill, 2017; Robinson et al., 2020; Smith et al., 2018). A sense of place identity, through familiarity with, pride in, or otherwise valuing one's community, was described as protective for developing and maintaining a sense of belonging in the context of external threats to belonging (Robinson, 2020; Terman, 2014). These findings support an exploration of belonging in the presence of place-related variables, such as perceptions of rurality and place attachment, among rural populations. In urban populations, belonging has been found to mediate the effect of both external and

psychological variables on educational outcomes (Poteat et al., 2015) and well-being (Shelton et al., 2020), as well as to moderate the effect of loneliness on depression (Baskin et al., 2010). In addition, belonging has been found to be predicted by PSOC alone and social support through PSOC (Lardier et al., 2019; Mammana-Lupo et al., 2014). It has been studied across a diverse range of populations, including LGBTQ+ students (Poteat et al., 2015), Latinx immigrants (Shelton et al., 2020), and students of color (Baskin et al., 2010; Lardier et al., 2019). Given the dearth of quantitative research on belonging in rural areas, further research in this area was warranted.

Finally, both well-being and psychological distress have demonstrated associations with rurality. Keyes (2002) suggests that mental illness and well-being are best understood as two separate continua; following this model, both constructs will be examined in the current study. Previous research has indicated that those in rural areas experience higher levels of well-being compared to their urban counterparts (Andrykowski et al., 2017; Gilbert et al., 2016; Wienke & Hill, 2013). Similarly, rural residents may experience lower levels of psychological distress than urban residents (Dhingra et al., 2009), although distress has been found to increase with higher levels of remoteness within a rural sample (Butterworth et al., 2014). Regarding relationships with other variables, results have indicated a robust relationship between PSOC and well-being (Stewart & Townley, 2020), including in rural populations (Kutek et al., 2011; Stacciarini et al., 2015). In contrast, analyses of the relationship between PSOC and psychological distress among rural residents has yielded mixed results regarding whether the two constructs are significantly related (Kelly et al., 2011; Handley et al., 2019). Non-rural qualitative research has connected various aspects of place attachment with well-

being (Scannell & Gifford, 2017). In addition, non-rural quantitative research has demonstrated relationships between belonging and both well-being (Shelton et al., 2020) and distress (Baskin et al., 2010), as well as between neighborhood characteristics and distress (e.g., Hurd et al., 2013). Finally, quantitative research has demonstrated increased levels of psychological distress along axes of oppression including race, sexuality, and class among rural populations (Barefoot et al., 2015; Linn et al., 1990). Taken together, previous research supports examining the relationships among the predictor variables identified for the current study and mental health outcomes.

Relevance to Counseling Psychology

The focus of the current study aligns with several counseling psychology values. First, the proposed study utilizes a systems perspective by approaching the research topic from Bronfenbrenner's (1979) ecological systems theory and exploring both previous and current research findings in the context of structural, physical, demographic, and cultural aspects of rurality (Altmaier & Ali, 2012). Within this theoretical approach, a focus on person-environment interaction is central (Lichtenberg et al., 2018). Several variables involved, including sense of community, place attachment, and perceptions of rurality, inherently involve both person and environment factors, as experiences within one's environment (rural community specifically and rurality broadly) can be expected to impact their attitudes, emotions, and perceptions.

In addition, the proposed study draws on counseling psychology's values of diversity, including contextualizing experiences within "sociocultural context and systemic barriers" (Lichtenberg et al., 2018, p. 63), and social justice (DeBlaere et al., 2019; Speight & Vera, 2008). In particular, the literature reviewed in Chapter II

highlights the role of privilege and oppression in affecting individuals' experiences with place and community, specifically the ways in which these operate uniquely in rural areas. The current study examined differences in variables of interest along axes of privilege and oppression, including race and ethnicity, gender, sexual orientation, and SES. Previous research has demonstrated barriers to PSOC and belonging as well as higher levels of psychological distress described above for rural residents with marginalized identities (e.g., Barefoot et al., 2015; Caxaj & Gill, 2017; Kennedy, 2010). Satisfaction with living in a rural area and experiencing barriers to sense of community (e.g., transphobia, homophobia, racism) are not mutually exclusive (Abelson, 2016; Kennedy, 2010; Plastow, 2010). Given these findings, exploring group differences among variables of interest may contribute to a greater understanding of these variables, as well as offer important implications for future research and intervention.

Relatedly, the current study aligns with counseling psychology values for health promotion (Altmaier & Ali, 2012) and prevention (Lichtenberg et al., 2018). Specifically, the proposed study utilizes the dual continuum model of mental health (Keyes, 2002) and will explore both well-being and psychological distress as outcome variables. Given a prevalent focus on barriers to mental health and treatment seeking among rural populations in the literature (e.g., Cheesmond et al., 2019; Jensen et al., 2020), exploring variables that are expected to positively predict well-being (i.e., PSOC, place attachment, belonging; Scannell & Gifford, 2017; Shelton et al., 2020; Stewart & Townley, 2020) contributes to the existing literature in a way that is consistent with counseling psychology values. In addition, given the previous success of neighborhood-level interventions in increasing sense of community (O'Connor, 2013), to the extent that the

variables of interest are associated with psychological distress, the results of the proposed study can be used to inform prevention interventions.

Finally, the proposed study contributes to an important gap in the counseling psychology literature. Counseling psychology values multiculturalism and diversity (e.g., Lichtenberg et al., 2018; Vera & Speight, 2003), and several conceptualizations of identity and culture include geographic location (Sue & Sue, 2016) or location of residence (D'Andrea & Daniels, 1997) as a component. However, very few studies published in counseling psychology's flagship journals are focused on rural populations. Exceptions primarily focus on career development (e.g., Rasheed Ali et al., 2021; Wettersten et al., 2005). Thus, the current study contributes to a gap in the counseling psychology literature by exploring experiences of individuals with an under-researched aspect of identity.

Purpose of the Current Study

The current study explored the relationships among perceptions of rurality, PSOC, place attachment, belonging, and mental health outcomes (i.e., well-being and psychological distress) among a rural sample using Bronfenbrenner's (1979) theoretical framework of ecological systems theory. Specifically, a conditional mediation model in which place attachment and PSOC are positioned as serial mediators of the directional relationship from perceptions of rurality to mental health outcomes, with belonging as a mediator of the path between PSOC and outcomes, was tested. In addition, group differences in variables of interest were measured to determine which demographic variables should be included in the model, if any. Utilizing a quantitative research design builds on the previous literature base, which has provided a range of qualitative

descriptions of perceptions of rurality, PSOC, place attachment, and belonging as experienced by rural residents (Cromartie et al., 2015; Pedersen, 2018; Terman, 2014; Walker & Raval, 2017). However, with the exception of PSOC, quantitative research on the variables of interest in the current study using rural samples is very limited. Specifically, there is limited quantitative research on place attachment (e.g., Anton & Lawrence, 2014), no quantitative research on belonging, and no research using perceptions of rurality as a single predictor variable (see Theodori & Willits, 2019). In addition, the previous research summarized above documents relationships between place attachment and belonging (Terman, 2014), place attachment and PSOC (Scannell & Gifford, 2016), and PSOC and belonging (Lardier et al., 2019), but no studies could be identified that included all three variables in the same model. Thus, by measuring the variables of interest quantitatively, and by including them concurrently in statistical analyses, the current study extends previous literature.

Specifically, the following research questions were investigated. First, how do variables of interest correlate with one another? Second, are there group differences in variables of interest across demographic variables such as age, gender, race, sexual orientation, SES, and indicators of rurality? Third, do place attachment and PSOC serially mediate the effect of perceptions of rurality on mental health outcomes? Fourth, does belonging moderate this indirect effect?

Definitions

- **Rural:** A geographic location characterized by smaller populations and lower population density than metropolitan areas (Cromartie, 2020b; Ratcliffe et al.,

2016). Various cultural values and attributes may be shared among rural residents as well (e.g., Smalley & Warren, 2012; McCord et al., 2015).

- **Perceptions of rurality:** The extent to which individuals hold positive and negative images or views of rurality (Theodori & Willits, 2019).
- **Psychological sense of community:** The extent to which one feels "part of a readily available, mutually supportive network of relationships," (Sarason, 1974, p. 1). Components include feelings of belonging with the group, that the individual and group matter to one another, that one's needs will be met by being a part of the group, and of emotional connection through shared history and experiences (McMillan & Chavis, 1986). In the proposed study, PSOC will be measured in reference to the rural community (e.g., village, town, unincorporated area, etc.) in which one lives.
- **Place attachment:** Psychological and emotional relationships that people form with their environments (Scannell & Gifford, 2010; Zahnow & Tsai, 2021).
- **Belonging:** Feeling that one is an important part of their environment (Hagerty et al., 1992) or is a part of "lasting, positive, and significant interpersonal relationships" (Baumeister & Leary, 1995, p. 497). In the proposed study, belonging will be measured as a general experience (Malone et al., 2012) without reference to any particular environment or community.
- **Well-being:** "Optimal psychological functioning and experience" (Ryan & Deci, 2001, p. 142). The proposed study will utilize a measure of eudaimonic well-being, defined as fulfilling one's potential and experiencing purpose and meaning in life (Lent, 2004; Ryan & Deci, 2001).

- **Psychological distress:** Non-specific cognitive, behavioral, emotional, and psychophysiological symptoms including nervousness, negative affect, fatigue, and agitation (Brooks et al., 2006; Dohrenwend et al., 1980, cited in Kessler et al., 2002).

CHAPTER II

REVIEW OF THE LITERATURE

Given the unique context of rural areas, such as low population density (Ratcliffe et al., 2016) and limited representation and acceptance of diversity (e.g., Castillo & Cromartie, 2020; Plastow, 2010), that may be expected to impact one's sense of community and belonging (e.g., Kennedy, 2010; Smith et al., 2018), it appears important to explore experiences of place, community, and belonging among rural residents. Many rural residents experience difficulty accessing mental health services due to limited availability in rural areas, accessibility of services, or acceptability of and attitudes toward services that are uniquely impacted by rurality (Cheesmond et al., 2019; Jensen et al., 2020). Since previous research has supported the relationships of sense of community and belonging with psychological distress and well-being (e.g., Kelly et al., 2011; Shelton et al., 2020), identifying potential areas for preventive intervention may have practical impact. In addition, given findings that many rural residents with marginalized identities, such as people of color and LGBTQ+ individuals, often experience a reduced sense of community or belonging in rural areas (e.g., Caxaj & Gill, 2017; Smith et al., 2018), exploring the impact of these constructs on well-being and psychological distress unique to rural areas may inform interventions to increase equity.

The current chapter will review relevant literature on positive and negative perceptions of rurality, sense of community, place attachment, belonging, well-being, and

psychological distress. Research focusing on rural populations, and individuals with marginalized identities who live in rural areas where available, is prioritized and supplemented with a broader literature base as needed. In addition, interrelationships among variables of interest are highlighted. The chapter will conclude with a summary of the proposed study and hypotheses.

Context of Rurality

The physical, demographic, and economic contexts of rurality in the U.S. broadly are important for understanding the social contexts and individual well-being that are the focus of the proposed study. There is extensive variability across rural areas in demographics, culture, strengths, and challenges due in part to a specific area's history, as well as individual differences among rural residents (Johnson, 2017; McCord et al., 2015). Although it is important not to overgeneralize research conducted in a specific rural location to rurality in general, research supports similarities across rural areas (e.g., Herslund, 2021; Wilding & Nunn, 2018). For example, several values and beliefs are shared across many rural areas, including conservativism, family and community, and self-reliance. The following section will provide an overview of ways in which rurality is defined, demographic and economic information, and cultural context relevant to rural areas. In addition, this contextual information will be connected to a sense of place, community, and belonging in rural areas, which are variables of interest in the current study.

In the U.S., a range of methodologies exist for defining rurality. For example, the United States Department of Agriculture's Economic Research Service (ERS) has developed the Rural-Urban Continuum Codes, a categorical system with nine

designations at the county level: three for metropolitan areas and six for non-metropolitan areas (Cromartie, 2020b). Non-metropolitan areas consist of a combination of open countryside, rural towns, and urban areas with populations of 2,500-49,999 (Cromartie, 2021). These areas are further defined by the Rural-Urban Continuum Codes based on the size of the urban population in the county and adjacency to metropolitan areas (Cromartie, 2020b). In contrast, the U.S. Census Bureau uses a measurement system based primarily on population density in blocks and census tracts (i.e., smaller units of measurement than counties) to distinguish between urban and rural areas (Ratcliffe et al., 2016). Population thresholds, land use, and distance from an urban area are used in the system as well. The use of units of measurement smaller than the county level is notable, as 54.4% of the rural population in the U.S. live in a metropolitan area defined at the county level (U. S. Census Bureau, n.d.). Although rural areas are identified by being not designated as urban in the U.S. Census Bureau system, Ratcliffe and colleagues (2016) describe a more precise categorization at the county level in which counties are designated as completely rural (100% rural), mostly rural (50-99% rural), and mostly urban (less than 50% rural) based on the make-up of census tract rural-urban designations contained in the county. Across both systems, rurality can be measured by population size, population density, and distance from urban areas.

The system used to designate the rurality of a land area is important, as different systems can lead to different categorizations. For example, Franklin County, Missouri (the author's home county) is designated as level 1, which is the most metropolitan designation. In contrast, the county is categorized as mostly rural by the U.S. Census Bureau, with 55% of the population living in a rural area. For additional context, the

author's home zip code (located within Franklin County) has a population density of 34.2 people per square mile (U. S. Census Bureau, 2019) and is subjectively considered rural by the author, which stands in stark contrast to a metropolitan designation. This example is used to highlight the complex nature of defining rurality. In the proposed study, population density by zip code and U.S. Census Bureau county-level designations will be used to report demographics and explore group differences, and subjective reports of rurality will be utilized to recruit participants.

Turning to demographic context in rural areas, statistics on population change, age, and race and ethnicity will be presented. Population change is a particular concern in rural areas (e.g., Carr & Kefalas, 2007) given the declining population in some areas (e.g., Great Plains) and significantly lower population gains compared to urban areas (Johnson, 2017). Cromartie (2020a) highlighted that population gains tend to be highest in areas that are closer to metropolitan areas and/or have many natural amenities and recreational opportunities. Population change is associated, in part, with the relative aging of rural populations. Although many rural counties are losing young adults through out-migration, many older adults choose to age-in-place in the rural community, and still others migrate to rural areas beginning around age 60 (Johnson, 2017). These migration trends contribute to differences in the median age across rural (51 years) and urban (45 years) areas (U. S. Census Bureau, 2016). Given positive associations between age and sense of community among rural residents (e.g., Kulig et al., 2018), the age make-up of rural communities may have implications for experiences with place and community.

Rural areas are often portrayed and imagined as predominantly White in racial and ethnic make-up (e.g., Lichter & Brown, 2011). On average across the U.S., this

expectation appears to be true. In 2018, 78.2% of the population in rural areas in the U.S. was White compared to 57.3% in urban areas (Castillo & Cromartie, 2020). Utilizing national averages conceals important regional differences in racial and ethnic diversity, however. For example, some areas, such as in Maine (95.7%) or Missouri (92.2%), the percentage of White residents is high (RHIhub, n.d.-b). In contrast, there are areas of the country in which people of color live in more concentrated rural populations than average. For example, Black populations are larger than the rural national average of 7.8% (Castillo & Cromartie, 2020) in areas such as the Southeast (Johnson, 2017). In some states, such as Mississippi (38.9%) and South Carolina (38.7%), the proportion of Black residents in nonmetropolitan areas exceeds the proportion in metropolitan areas of that state (RHIhub, n.d.-a). Similarly, Latinx populations have been increasing in certain rural areas, particularly the Midwest, in recent years (Johnson, 2017; Lichter, 2015). For example, in one Minnesota town, Latinx individuals made up 4% of the population in 1990 and 35% in 2010 (Lichter, 2015). In contrast, across rural areas, Native Americans make up a larger percentage of the population (2.1%) compared to urban areas (0.4%; Castillo & Cromartie, 2020); this is the only marginalized racial group with this pattern.

The above examples highlight the importance of considering the immediate local context when discussing rurality. In addition, given findings that the percentage of African Americans in a community predicted psychological symptoms through community cohesion among an urban sample (Hurd et al., 2013) and that visible racial and ethnic minority residents of a particular Scottish community often experienced a low sense of community (Plastow, 2010), understanding the racial and ethnic composition of a community appears important for contextualizing experiences with community.

In addition to demographic trends in rural areas, economic context plays an important role. A range of industries can be found across rural areas, including manufacturing, agriculture, extraction (e.g., mining), and recreation and tourism (Johnson, 2017). As noted above, in-migration tends to be highest in areas with desirable recreation opportunities (Cromartie, 2020a), suggesting a relationship among industry, the economy, and population. Results of a nationally representative survey indicated that rural participants were more likely to rate job opportunities in their community as poor (34%) compared to suburban (18%) and urban (14%) counterparts (KFF, 2017). Notably, a lack of access to desirable jobs is a commonly reported reason for out-migration provided by rural young adults (e.g., Hlinka et al., 2015). Regarding education, adults in rural areas across the U.S. are less likely to have a bachelor's degree (19.5%) compared to urban counterparts (29%; U. S. Census Bureau, 2016), which can be assumed to impact both individual and community level economic context.

Regarding income, more families in rural areas than urban fall below the federal poverty line on average (Johnson, 2017), and 86% of counties identified by the ERS as having high and persistent poverty were rural (Farrigan, 2021b). However, these rates often interact with race and ethnicity, such that Black (30.7%), Native American (29.6%), and Hispanic (21.7%) rural populations are more likely to experience low income than non-Hispanic White rural populations (12.7%; Farrigan, 2021a). In addition, counties with high and persistent poverty rates were generally concentrated in the Mississippi Delta, the Black Belt, Appalachia, the southern border of the U.S., and Native American reservations (Farrigan, 2021b). Notably, many of these geographic locations are those that have higher-than-average populations of people of color (e.g., RHIHub, n.d.-a).

Finally, shared cultural elements contribute to the context of rurality. Rural areas are often considered synonymously with conservativism and traditional beliefs (e.g., Lichter & Brown, 2011). The prevalence of conservative and traditional values is supported both by subjective reports from rural residents (e.g., Collins et al., 2017) and objective data (KFF, 2017). For example, data from a nationally representative survey indicated that rural participants were more likely to endorse a range of conservative and/or prejudiced views than urban participants. They were more likely to blame individual lack of effort instead of one's circumstances for poverty (49%) than were their urban counterparts (37%), support repealing and replacing the Affordable Care Act (54%, urban = 37%), believe immigrants in the U.S. are a burden on the economy (42%; urban = 16%), and believe White individuals being harmed out of a preference for people of color was a bigger problem than vice versa (34%; urban = 23%; KFF, 2017). Previous research suggests these beliefs have tangible effects on rural residents. For example, a conservative local political climate has been associated with feeling unsafe and unaccepted, as well as having a low sense of belonging, among rural transgender individuals (Smith et al., 2018) and with restricted ability to express one's sexuality among rural men who have sex with men (Kennedy, 2010). Similarly, people of color (e.g., Plastow, 2010) and families with low income (e.g., Sherman & Sage, 2011) reported a reduced sense of belonging in rural areas, and rural women reported restrictive gender norms (e.g., Terman, 2014). Thus, the conservative and traditional beliefs associated with rurality appear to uphold current systems of power and cause harm to those with marginalized identities.

The results of the survey described above (KFF, 2017) also indicate that conservative beliefs do not necessarily monopolize rural areas. With the exception of the question about the Affordable Care Act, approximately the same proportion of rural participants endorsed the less conservative and/or prejudiced answer (e.g., immigrants strengthen the U.S.; people of color are more likely to be harmed out of preference for White individuals) as those that endorsed the more conservative choice. Similarly, Democrats were more prevalent in the sample than might be expected based on common images of rurality (37% Democrat/Democrat leaning compared to 47% Republican/Republican leaning). Recognizing the presence of more liberal and socially just beliefs is particularly helpful in recognizing and leveraging support for social justice work happening in rural areas (Barton & Currier, 2020). At the same time, it is crucial to confront the harm done to individuals with marginalized identities by traditional and conservative beliefs and the community systems and institutions that are upheld by such beliefs. The literature review that follows attempts to both give voice to the harm of conservative and oppressive beliefs on marginalized groups and to review examples of communities that are more successful in integrating and respecting diversity with an eye toward increasing belonging and socially just outcomes.

Another value associated with rurality is the importance of family (Smalley & Warren, 2012) and community (Leipert & George, 2008). Connecting these values to the rural context described above, the agricultural history in many rural areas contributed to the importance of family (Smalley & Warren, 2012). Additionally, small population sizes often contribute to knowledge of one another's lives and, subsequently, the provision of support as a community when needed (Collins et al,, 2017; Leipert & George, 2008).

These values can facilitate benefits for rural residents, such as when a community rallies around an individual or family that needs support (e.g., Collins et al., 2017), or be detrimental, such as when social pressures stemming from a lack of privacy or close family ties present barriers to living authentically (e.g., Kennedy, 2010; Walker & Raval, 2017). These values provide an excellent example of the ways in which macrosystems impact lower-level systems (Bronfenbrenner, 1979).

Finally, self-reliance has been identified as an important rural value (Cheesmond et al., 2019). Self-reliance can be seen as a necessity in a rural context, given the geographical isolation from social and health service providers, and, in some cases, from other people in general (Smalley & Warren, 2012). This highlights the importance of considering both population density and distance from metropolitan areas described above when conceptualizing rural experiences. Self-reliance and the importance of community can be perceived as conflicting values, and exploring experiences of place and community among rural residents acknowledges that the unique cultural context of rurality warrants study of the focal variables among rural participants specifically.

Taken together, previous research suggests that various aspects of location, population, and values can be expected to impact experiences of place, community, and belonging in rural areas (e.g., Hurd et al., 2013; Terman, 2014). By collecting a range of demographic and location-related information from participants, as well as working to recruit a diverse sample of rural residents, the current study attempted to take the context of rurality into account in the exploration of included variables. Many previous studies focusing on experiences of place and community with rural samples have been qualitative, using small samples drawn from a specific local area (e.g., Caxaj & Diaz,

2020; Pedersen, 2018; Sherman & Sage, 2011), and many quantitative studies conducted have similarly focused on a specific geographical location (e.g., Anton & Lawrence, 2014; Wolfe et al., 2020). In addition, research has supported certain similarities across specific rural areas (e.g., attitudinal barriers to mental health seeking; Cheesmond et al., 2019). This research, in combination with the relative gap in geographically diverse rural research utilizing a large sample size, supports the use of quantitative methodology without restricting geographic area of recruitment and exploring the role of various aspects of rural context. Attention to contextual variables such as population density, distance from urban areas, demographic make-up of a community, and community experiences both in the literature review process as well as data collection and analysis aligns with an ecological framework (Bronfenbrenner, 1979).

Theoretical Underpinnings

The proposed study is framed using ecological systems theory (Bronfenbrenner, 1979). Bronfenbrenner's (1979) ecological theory of development proposes a reciprocal relationship between an individual and their environment, which is, in turn, influenced by relationships with other systems and the larger cultural context. One's context or environment is conceptualized as a series of nested levels. The innermost level is the *microsystem*, or the activities and interpersonal interactions the person experiences in a particular setting. An individual's experience of an environment is more important than objective features of the environment, although these should still be considered. Examples of microsystems include family, work, and social settings for adults. The next level is the *mesosystem*, or the relationship among various microsystems. Connections between microsystems include, for example, others who participate in both microsystems

or the attitudes held in one microsystem about another. Next is the *exosystem,* or settings that an individual is not directly involved in but that either affect or are affected by their microsystem. Finally, the *macrosystem* includes consistencies across micro-, meso-, or exosystems that occur across individuals within a given culture, as well as cultural beliefs and values. Bronfenbrenner notes that, although there are similarities across larger societies in environments and systems, different groups (e.g., socioeconomic status [SES], race and ethnicity, religion, etc.) within that society often have differing "systems blueprints" (p. 26) that reflect the unique macrosystem for the group. Thus, different groups tend to experience unique ecological environments based on shared macrosystems unique from other groups.

Utilizing an ecological systems framework (Bronfenbrenner, 1979) is well-suited to a study of rural populations for several reasons. The microsystem relevant for the current study will be social settings that provide opportunity for social interactions leading to assessments of belonging and sense of community. Such social settings could include local festivals (Wilding & Nunn, 2018), community service opportunities (Herslund, 2021), bars (Watkins & Jacoby, 2007), or churches (Smalley & Warren, 2012). In addition, the setting of rural social microsystems is unique in that there are often fewer available venues for interaction compared to more urban areas (Cromartie et al., 2015; Herslund, 2021), and, thus, one might have greater difficulty finding opportunities to interact with people with similar interests or identities (e.g., Kennedy, 2010). A focus on one's experience of the setting highlights that, whereas some rural residents may feel supported by and safe in a small, tight-knit community, others feel unsafe or restricted (e.g., Cromartie et al., 2015). Finally, a focus on the macrosystem

allows for exploration of aspects of physical space and cultural values and beliefs common in rural areas and the ways in which these impact microsystems (e.g., excluding groups with marginalized identities; Smith et al., 2018). To the extent that rural macrosystems are different from urban or suburban macrosystems, the micro-, meso-, and exosystems will be unique as well. This underscores the importance of exploring social and community perceptions within rural areas specifically.

In the proposed study, the variables of interest are measured at the individual level, and all are expected to be influenced by various ecological levels and their interactions. For example, perceptions of rurality may be influenced by interactions between an individual and the macrosystem, such as the extent to which one agrees with and adheres to local values (e.g., Watkins & Jacoby, 2007) or enjoys physical aspects of their area (e.g., scenery; Ulrich-Schad, 2016). Given the importance of both social and physical place aspects in place attachment (Scannell & Gifford, 2010), this construct may be influenced by interactions with both macrosystems and microsystems. As a reflection of one's perception of their social and relational networks (Sarason, 1974), psychological sense of community reflects one's perceptions of their microsystems, which are, in turn, influenced by higher level systems (Bronfenbrenner, 1979). Aspects of the macrosystem, such as income inequality (Sherman & Sage, 2011) or local values (Watkins & Jacoby, 2007), impact all lower levels. Low-income families who feel excluded and devalued by school systems (Sherman & Sage, 2011) demonstrate the impact of the macrosystem on a microsystem. The community itself, as an example of the exosystem, may interact differently with different microsystems, for example by influencing whether a community has an LGBTQ+ resource center which, in turn, affects an individual's sense

of being welcomed in the community (Hulko & Hovanes, 2018). Belonging, as a general sense of one's relationships across settings (Baumeister & Leary, 1995), also likely reflects experiences at a variety of levels, such as the exosystem (e.g., one's community; Caxaj & Gill, 2017) and microsystem (e.g., university; Terman, 2014). However, belonging is likely influenced by a wider range of microsystems, such as family, that may not be included in sense of community. Research supporting the impact of experiences at various levels of the ecological system on the variables of interest in the current study support the use of Bronfenbrenner's (1979) theory to frame the study.

The relationships among various aspects of rural context and variables of interest described above, as well as the utility of Bronfenbrenner's (1979) model in connecting rural context to the variables of interest, provide a foundation for more detailed exploration of each variable that follows. Specifically, previous research on perceptions of rurality, psychological sense of community, place attachment, belonging, and mental health outcomes will follow, with specific focus on research conducted in rural areas and interrelationships among the variables of interest.

Perceptions of Rurality

A range of positive and negative perceptions of rurality held by both rural and urban populations are reported in the literature (e.g., Cockfield & Botterill, 2012; Cromartie et al., 2015). Given the importance of an individual's experience of the settings of their microsystems (Bronfenbrenner, 1979), rural residents' perceptions of rurality are important in addition to objective data about their macrosystem. Perceptions of rurality include personal evaluations of various aspects of the macrosystem, including cultural values (e.g., importance of community relationships; Cromartie et al., 2015) and physical

aspects of the environment such as landscapes (McGranahan, 1999) and amenities (Glaze et al., 2013). Based on ecological systems theory (Bronfenbrenner, 1979), these experiences of the macrosystem are expected to influence one's experiences with their microsystems, such as workplaces, families, and schools. One of the most comprehensive articles in this area is by Theodori and Willits (2019). These authors explored positive and negative perceptions of rurality, in addition to anti-urban sentiment, held by 712 rural Texans in a quantitative study of the rural mystique. The rural mystique refers to positive views of rurality in the U.S. that include pastoral images, conquering the frontier, connections to national history and character, and nostalgia for simpler times (Theodori & Willits, 2019; Willits et al., 1990). Results indicated that residents in rural areas and small towns across Texas generally accepted positive perceptions and rejected negative perceptions of rurality. The variables examined in their study provide a structure for the detailed discussions of positive and negative perceptions of rurality, and specific findings from both the Theodori and Willits (2019) study and additional research will be discussed. More specifically, the next section will review research on positive perceptions of rurality, including community life, quality of life, physical qualities, family friendliness, and personal characteristics; a review of negative perceptions of rurality will follow.

Positive Perceptions of Rurality

A range of positive perceptions of rurality are evident in qualitative research (e.g., Cromartie et al., 2015) and survey research (e.g., Ulrich-Schad et al., 2013). Findings about the nature and magnitude of positive perceptions of rurality come predominantly from individuals who currently live in rural areas (see Cockfield & Botterill, 2012, for an

exception). An examination of the literature reveals a range of potential reasons that people may be initially attracted to moving to a rural area or maintain rural residence, thus highlighting important positive perceptions of rurality.

First, aspects of rural community life are often viewed positively (e.g., KFF, 2017). Approximately three-quarters of rural residents surveyed across the U.S. report positive perceptions of their community, including neighborliness, friendliness, and tendency to look out for one another (KFF, 2017; Theodori & Willits, 2019). Additionally, among a sample of 1,200 Australian participants across rural and urban areas (no further demographic information available) who participated in a study analyzing attitudes toward rurality and agriculture, rural individuals were seen as having a higher commitment to their community than urban individuals (Cockfield & Botterill, 2012). Rural residents' reports of their experiences of community life offer a more detailed understanding of these perceptions. For instance, Cromartie and colleagues (2015) interviewed approximately 300 attendees of high school reunions in geographically disadvantaged counties (i.e., those that were more remote and had fewer natural amenities than the national average) in a study of the motivations and experiences of those who returned to live in their rural hometown. Participants were predominantly White (>95%). Those who had returned to live in or near the community where they attended high school identified tight-knit social networks, residents' willingness to work together and help one another, and a commitment to community as attractive features of their respective community. Relatedly, rural community college students in Kentucky interviewed by Hlinka and colleagues (2015) identified a sense of civic duty, or desire to improve the communities in which they were raised, as influencing their intentions to

liver permanently in their hometown. Taken together, results suggest that rural residents value the close, mutually supportive relationships that are available in their communities, as well as a general sense of connection to others (e.g., friendliness).

Second, quality of life is frequently perceived as a positive aspect of rural life (e.g., Theodori & Willits, 2019). For example, among 16,817 adults living in nonmetropolitan U.S. counties, quality of life had the highest mean score for importance in considerations to stay in one's community (Ulrich-Schad et al., 2013). Specific aspects of quality of life appear to be particularly associated with rurality, including a simpler or slower pace of life (e.g., Cromartie et al., 2015) and safety (e.g., KFF, 2017). Approximately 70-90% of rural residents endorse their lifestyle as less stressful or more peaceful than in other areas (Theodori and Willits, 2019). In addition, perceptions of safety in rural areas contribute to beliefs that rurality offers a high quality of life (e.g., KKF, 2017). For example, in a random, representative sample of rural residents across the U.S. (n = 1,070; White = 76%), 75% of participants rated safety in their own community as excellent or good, and fewer rural residents named crime as the biggest problem facing their community compared to suburban and urban residents (4%, 10%, and 15%, respectively; KFF, 2017). Specific aspects of safety valued by rural residents include the ability to leave doors unlocked and letting children play outside and explore safely (Cromartie et al., 2015; Kondo et al., 2012). It is likely that both perceptions of lower crime rates (KKF, 2017) as well as trust in community members (e.g., Cromartie et al., 2015) contribute to feelings that children and property are safer in rural areas.

Third, physical qualities of rural areas tend to be positively perceived (e.g., Stockdale et al., 2013). Frequently identified positive physical qualities of rural areas

include natural amenities (i.e., climate, topography, water access; McGranahan, 1999) and recreation (Johnson & Beale, 2002). For example, among rural Texans surveyed by Theodori and Willits (2019), 69% agreed that "because rural life is closer to nature, it is more wholesome" (p. 175). In addition, Rupasingha and colleagues (2015) analyzed county-level migration data obtained from the U.S. Census Bureau from 1995-2000 and 2005-2009 and found that natural amenities positively predicted rural in-migration rates. Relatedly, natural beauty received the second highest average score for importance in considerations to stay in one's rural community (Ulrich-Schad et al., 2013).

In addition to natural features and landscapes in rural areas, access to recreation contributes to positive perceptions of rurality (Cromartie et al., 2015). Quantitatively, a county's recreation status predicted rural in-migration rates for young adults, family-age adults, and retirement-age individuals in a study using county-level data to examine the impact of recreational amenities and the Great Recession on rural in-migration (Ulrich-Schad, 2016). Qualitatively, participants who returned to live in their rural hometown (Cromartie et al., 2015) and those who moved into a rural Northern Irish area during their midlife (Stockdale et al., 2013) tended to identify recreation opportunities directly connected to the natural amenities of their respective rural communities, such as boating and camping, as a valued part of living in a rural area or draw to moving there in addition to recreational infrastructure, such as bike paths, swimming pools, and local parks. Overall, research suggests that the enjoyment offered both through the beauty of natural areas, as well as opportunities to engage in enjoyable recreation activities, are viewed positively by current and potential rural residents.

Fourth, rural areas are often positively perceived as good places for families (e.g., KFF, 2017). Seventy-three percent of rural Texans surveyed agreed that "Rural families are more close-knit and enduring than are other families" (Theodori & Willits, 2019, p. 175). Relatedly, rural community college and Appalachian college students who planned to live in their hometown after graduating identified their close connections with family as an important reason for their decision (Hlinka et al., 2015; Vazzana & Rudi-Polloshka, 2019). In addition to close and meaningful family relationships motivating migration decisions, many rural U.S. residents surveyed praised their community as a good or excellent place to raise their own children (76%; KFF, 2017). Cromartie and colleagues (2015) observed that, among adults who had grown up in geographically disadvantaged rural areas, families with children or planning to have children were more likely to have returned to live in their rural hometown than single individuals or couples planning to remain child-free. In addition, rural parents discussed community safety, reduced anonymity, and smaller class sizes in school as valuable assets for raising a family. Multi-generational family networks are often important in rural communities (e.g., Smalley & Warren, 2012), and the value placed on rurality by rural residents for both raising a family and remaining connected to one's one family of origin are evident.

Finally, certain personal characteristics are often associated with rurality and contribute to positive perceptions (e.g., Cockfield & Butterill, 2012). For example, 78% of rural Texans surveyed agreed that "rural life brings out the best in people" (Theodori & Willits, 2019, p. 175). In addition, in a sample of Australian rural and urban participants, rural individuals were more likely to be perceived as self-sufficient and tough or resilient than urban individuals (Cockfield & Botterill, 2012). A caveat to

findings about perceptions of characteristics and values associated with rurality is rural individuals tend to be more likely to perceive differences between themselves and urban individuals than are urban individuals. Specifically, rural participants attributed positive agrarian characteristics and values (e.g., self-sufficiency, resiliency) to themselves only at a significantly higher rate than urban individuals attributed these only to rural folks (Cockfield & Botterill, 2012). In addition, rural individuals across the U.S. were more likely to see themselves as very different from urban residents (41%) than urban residents were from rural individuals (18%); rural residents were also less likely to perceive themselves as having similar values to urban individuals (29%) than urban residents were to perceive themselves as having similar values to rural individuals (49%; KFF, 2017). Given these findings, rural values and characteristics appear to be an aspect of positive perceptions of rurality among rural residents, although these positive perceptions may not be seen as uniquely rural by non-rural individuals (Cockfield & Botterill, 2012).

In addition to highlighting discrepancies between perceptions of rurality by urban and rural individuals, it is important to note that the research described above detailing positive perceptions of community, quality of life, natural and recreational amenities, and family values is derived primarily from individuals who have chosen to live in rural areas (e.g., Cromartie et al., 2015; Ulrich-Schad et al., 2013). In addition, there are variations within rural areas regarding magnitude of positive perceptions more broadly. Theodori and Willits (2019) reported that people who were older, male, Republican, and residents of smaller rural areas in Texas were more likely to agree with positive perceptions of rurality than their counterparts. Taken together, the extent to which rurality is viewed positively appear to depend in part upon a range of personal characteristics and

demographic variables. Therefore, the current study will focus on positive perceptions of rurality among rural residents in order to examine differences in positive perceptions based on various demographic variables and to predict place- and community-based and mental health outcomes.

Negative Perceptions of Rurality

In addition to the identified positive perceptions of rurality, negative perceptions of rurality are espoused by both rural and urban residents (e.g., Glaze et al., 2013; Kennedy, 2010). A review of the literature identified a range of negative perceptions of rural areas through both quantitative (e.g., Cockfield & Botterill, 2012) and qualitative (e.g., Cromartie et al., 2015) research. Whereas research on rural in-migration tends to focus more on factors that may be viewed positively and encourage residents to move there (e.g., Ulrich-Schad et al., 2013), research on rural brain drain often identifies negative perceptions of rural areas that lead to out-migration decisions (e.g., Vazzana & Rudi-Polloshka, 2019). Rural brain drain refers to widespread patterns of out-migration of rural youths, particularly those seeking or who have obtained higher education and tend to leave rural areas at disproportionate rates (Carr & Kefalas, 2009). The remainder of this section will review negative perceptions of rurality, including aspects of community, lack of amenities, behind the times, lack of opportunity, and discrimination.

First, aspects of community life in rural areas, including isolation and tight-knit community networks, may be perceived negatively (e.g., Cromartie et al., 2015; Rupasingha et al., 2015). In an analysis of U.S. Census Bureau data, Rupasingha and colleagues (2015) found that population density predicted in-migration rates, such that lower population density predicted lower levels of in-migration. This effect was stronger

in counties that were not adjacent to a metropolitan county, suggesting that isolation may be an important factor in migration decisions, as those in metropolitan-adjacent counties have easier access to city amenities and networks. Qualitative research highlights negative perceptions of isolation as well. For example, in a qualitative study of 32 men who have sex with men (MSM) in rural areas across Canada (White = 84.4%, over 40 years of age = 84.4%), those who lived in the same town they grew up in had smaller social networks that tended to stay within their community, whereas men who moved from an urban area maintained parts of their previous social network outside of the rural community (Kennedy, 2010). The tight-knit nature of rural communities can also be seen negatively (e.g., Cromartie et al., 2015). For example, people who grew up in a rural area and chose not to move back valued the privacy and anonymity afforded by urban living (Cromartie et al., 2015). For several men interviewed by Kennedy (2010), tight-knit communities led to a sense of being watched and a perception that everyone knew everyone else's business, which served as a barrier to exploring and expressing their sexual orientation. Thus, relative isolation, particularly when connections are not easily available in urban areas (Kennedy, 2010; Rupasingha et al., 2015) in combination with a lack of privacy (Cromartie et al., 2015), are negatively perceived aspects of rurality.

Second, rural areas are often perceived as lacking desirable amenities (e.g., Glaze et al., 2013), although it appears perceptions may differ based on current residence and previous experience with rural areas. For example, among Texans who currently lived in a rural area, only 9% and 16%, respectively, agreed with the following statements: "rural life is monotonous and boring," and "living in rural areas means doing without the good things in modern society" (Theodori & Willits, 2019, p. 175). However, when 28 college

students (68% female, 78% White) who had never lived in rural areas participated in focus groups and discussed their reactions to various news photographs depicting aspects of rurality, several discussed beliefs or perceptions that people living in rural areas have nothing interesting or fun to do (Glaze et al., 2013). Across participants with rural and non-rural backgrounds, students identified a lack of conveniences and access to resources, such as doctors, schools, and restaurants, as barriers to people choosing to live in rural areas (Glaze et al., 2013). Relatedly, rural participants in a nationwide U.S. telephone survey were less likely than urban or suburban residents to believe their community had enough doctors (67% compared to 78% and 74%, respectively) or hospitals (77% compared to 87% and 86%, respectively; KFF, 2017). Finally, high school reunion attendees who had grown up in a rural town but chosen to live in an urban area cited a lack of amenities in rural areas, such as cultural events, shopping, and restaurants, as an important factor in their residence decision-making (Cromartie et al., 2015). Taken together, these results support perceptions that access to resources are limited in many rural areas.

Third, rurality may be associated with being behind the times (Cockfield & Botterill, 2012). Among rural Texans surveyed, the perception that "rural people are crude and uncultured in their talk, actions, and dress" (Theodori & Willits, 2019, p. 175) was the least frequently endorsed negative perception of rurality at just 4%. However, across rural and urban Australians sampled by Cockfield and Botterill (2012), rural people were more likely to be seen as behind the times (approximately 52%) and less likely to be seen as sophisticated (approximately 5%) compared to urban people or both rural and urban people (approximately 18% and 88%, respectively). Notably, answers

regarding whether rural, urban, or both urban and rural people (the latter options were combined in analyses) best fit these characteristics were not different based on current location of residence (i.e., urban or rural). In contrast, there were significant differences in many positive characteristics measured (e.g., self-sufficient) such that rural residents were more likely to attribute these only to themselves. Additionally, college students with an urban background discussed their perceptions that those in rural areas do not have access to modern technology, such as clothes dryers, power lines, and air conditioning, in response to news photographs depicting rural life (Glaze et al., 2013). Although both rural and urban participants perceive that rural areas are behind the times, the extent to which these beliefs are held is unclear based on existing research.

Fourth, a lack of opportunity for residents is a commonly identified negative perception of rurality in the literature (e.g., Vazzana & Rudi-Polloshka, 2019). The most commonly endorsed negative statement about rurality among rural Texans identified restricted opportunities for new experiences in rural areas (38%), and 27% agreed that "rural communities provide few opportunities for the individual to get ahead in life" (Theodori & Willits, 2019, p. 175). Similarly, a greater proportion of U.S. rural residents identified jobs or employment as the main problem in their community (21%) compared to urban (6%) and suburban (7%) participants (KFF, 2017). Emerging and young adults appear to be particularly impacted by work opportunities, as county-level employment rates negatively predicted rural in-migration only among these age groups (Ulrich-Schad, 2016). Relatedly, among 173 Central Appalachian college students (women = 66%, White = 90%), perceptions of the likelihood of finding a job with one's desired salary, opportunities for advancement, and level of interest and challenge significantly positively

predicted a desire to stay in Central Appalachia after graduation (Vazzana & Rudi-Polloshka, 2019). Finally, research has consistently indicated that, although rural young adults may be able to find suitable jobs in their local area, the types of jobs available are often limited, and those with career interests outside what is available in their area are more likely to migrate to an urban area (Cromartie et al., 2015; Hlinka et al., 2015; Vazzana & Rudi-Polloshka, 2019).

Fifth, rurality is often associated with discrimination and intolerance of diversity (e.g., Paceley et al., 2017). Although only 17% of rural Texans surveyed agreed that "rural people are suspicious and prejudiced toward anyone not like themselves," (Theodori & Willits, 2019, p. 175), the positive statement addressing rural residents' likelihood of accepting people as they are was the least frequently endorsed at 50%. Further, 32% agreed that "rural people are closed-minded in their thinking" (Theodori & Willits, 2019, p. 175). Research results focusing on the experiences of rural residents with marginalized identities generally supports these negative perceptions of rurality. For example, Vazzana and Rudi-Polloshka (2019) found that, among Central Appalachian college students, racial minorities (10% of sample) were significantly less likely to want to remain in the area after graduation.

Research on the experiences of LGBTQ individuals in rural areas similarly highlights the role of discrimination. Results are mixed regarding whether sexual minority adults experience higher levels of discrimination compared to their urban counterparts; however, rural sexual minorities are less likely to be out than their urban peers (Power et al., 2014; Rickard & Yancey, 2018). Further, Kennedy (2010) found that rural Canadian MSM who lived in their hometown were more likely to hide their sexual

orientation and feel excluded from the community compared to MSM who were in-migrants from an urban location. Feelings of exclusion stemmed from a fear of consequences for expressing their sexual orientation to those they were close to and disconnection from others with similar identities. They identified heteronormativity and masculine norms in their community as contributing factors in their decision to hide their identity from those around them. Taken together, results suggest that aspects of rurality result in greater hostility and lower acceptance and support of individuals with marginalized identities in some locations (Kennedy, 2010; Rickard & Yancey, 2018; Vazzana & Rudi-Polloshka, 2019).

Taken together, studies have identified a range of negative perceptions of rural areas held by those both living inside (e.g., Vazzana & Rudi-Polloshka, 2019) and outside (e.g., Glaze et al., 2013) of rural areas. In general, a greater proportion of results regarding negative perceptions of rurality comes from urban residents (e.g., Cromartie et al., 2015) and those planning to leave their rural area (e.g., Hlinka et al., 2015) in comparison to research on positive perceptions of rurality. Given the rural nature of the planned sample for the current study, the tendency for research with rural residents to focus on and reveal positive over negative perceptions of rurality may impact results.

Limited evidence from studies of current rural residents (e.g., rural in-migrants, those with marginalized identities; Rupasingha et al., 2015; Ulrich-Schad, 2016; Kennedy, 2010) were particularly informative in identifying negative perceptions of rurality. Taken together, these negative perceptions may drive out-migration (e.g., Vazzana & Rudi-Polloshka, 2019) and impact important life-course decisions made by residents who stay (e.g., Hlinka et al., 2015). The proposed study will measure negative

perceptions of rurality in conjunction with positive perceptions in order to predict community-based and mental health outcomes for rural residents. Measuring negative perceptions of rurality among rural residents will contribute to a gap in the literature in which negative perceptions are typically measured among urban residents and those who plan to leave a rural area, rather than those who are currently rural and plan to stay in their community (Theodori & Willits, 2019). In addition, including perceptions of rurality in the proposed study highlights the importance of subjective experience of one's setting, above and beyond objective qualities, proposed by Bronfenbrenner (1979).

Psychological Sense of Community

Psychological sense of community (PSOC) was described by Sarason (1974) as "the sense that one [is] part of a readily available, mutually supportive network of relationships" (p. 1). Based on a review of existing literature, McMillan and Chavis (1986) identified four components of PSOC: *membership* ("the feeling of belonging or of sharing a sense of personal relatedness"), *influence* ("a sense of mattering, of making a difference to a group and of the group mattering to its members"), *integration and fulfillment of needs* ("feeling that members' needs will be met by the resources received through their membership in the group"), and *shared emotional connection* ("commitment and belief that members have shared and will share history, common places, time together, and similar experiences"; McMillan & Chavis, 1986, p. 9). Based on these definitions, PSOC can be understood as reflecting one's perceptions of their experiences within relevant microsystems (e.g., either included or excluded in local events; Abelson, 2016), which are directly and indirectly influenced by higher level systems as well (Bronfenbrenner, 1979). For example, those who are not seen as

upholding rural values of hard work experience greater isolation and marginalization within school systems (Sherman & Sage, 2011). Examining PSOC within an ecological systems framework may also demonstrate the influence of an individual on their environment, for example by planning community programming designed to create a sense of local community across people with different racial and ethnic identities (Herslund, 2021; Wilding & Nunn, 2018),

McMillan's and Chavis's (1986) theory has also been supported empirically. For example, using six existing measures of sense of community and related variables, Obst and colleagues (2001) replicated the four-factor structure of PSOC theorized by McMillan and Chavis (1986) within geographical communities. Participants included 669 Australians with a mean age of 36.5 years who lived in rural, regional, or urban communities (Obst et al., 2001). Based on empirical support for McMillan's and Chavis's (1986) theory of sense of community, as well as its prevalent use in the literature (Obst et al., 2001), this model will be used in the current study. In the following sections, existing qualitative research on PSOC in rural areas will be described in relation to the four components of PSOC for those who experience high and low sense of community. Quantitative research on PSOC in rural areas and more broadly will follow.

Rural Experiences of Sense of Community: Qualitative Studies

Membership, the first of four components of PSOC, has several important qualities, including boundaries that delineate who belongs to the group and who does not; emotional safety that facilitates intimacy; a sense of belonging and identification; personal investment in the group; and a shared system of symbols, such as ceremonies, holidays, or landmarks (McMillan & Chavis, 1986). Many rural residents experience

community as tight-knit and mutually supportive (Cromartie et al., 2015; Walker & Raval, 2017). Walker and Raval (2017) conducted a qualitative study focused on the hometown experiences of 14 Midwest college students who had grown up in a rural area; the majority of participants were female (64%), and all were White. Participants discussed their experiences of people across the community coming together to support one another, even if they did not directly know the person they were helping, as well as a sense of knowing others and being known in the community (Walker & Raval, 2017). These responses exemplify perceptions of belongingness that both include and extend beyond personal relationships, as well as investment in the community in which people engage in altruistic behavior.

In contrast to the above experiences, not all people who live in rural areas have a sense of membership in their community. As part of a larger study on racism in rural southeast Scotland, Plastow (2010) interviewed 20 visible ethnic minority rural residents about their experiences with racism and perceptions of their community. Participants identified a range of experiences of racism, including being avoided or alienated through excessive staring and unfriendliness; verbally aggressive racist comments; and physical violence, property damage, or threats of physical violence, which tended to worsen after police involvement. Although these participants tended to have a positive view of rural life and expressed satisfaction living in their community overall, they reported very limited or no close involvement with the local community. It is possible that these experiences of racism served to undermine a sense of belonging and emotional safety specifically and to induce feelings of exclusion from the local rural community more generally. Relatedly, among a subset of transgender men who were interviewed by

Abelson (2016) as part of a larger study inquiring about their experiences living socially as men, participants identified that, despite their marginalized transgender identity, identities that they shared with the majority of their community, including Whiteness and "working-class heterosexual masculinit[y]" (p. 1540), facilitated their integration into the community. Taken together, this research supports the contention that varying experiences with privilege and oppression among individuals in rural areas can lead to exclusion and serve as a barrier to membership and PSOC (Watkins & Jacoby, 2007).

In addition to being excluded from membership in rural communities, other rural residents perceive the tight-knit nature of their community in a negative manner and do not wish to be part of it (Cromartie et al., 2015; Walker & Raval, 2017). For example, rural residents may feel overwhelmed by feelings that everyone knows their personal business (Walker & Raval, 2017), desire a greater sense of privacy afforded by less tight-knit geographic communities (Cromartie et al., 2015), or feel prevented from being oneself (Glendinning et al., 2003). For rural MSM that grew up in the rural community they currently lived in interviewed by Kennedy (2010), the sense that everyone would find out about aspects of their personal life prevented several men from openly expressing their sexuality for fear of repercussions. Thus, for some, feelings of membership in a rural community come with unwanted outcomes, such as a sense of pressure to behave in ways that meet community expectations and norms (e.g., Kennedy, 2010; Walker & Raval, 2017). In addition, it is likely that the experiences of privilege and oppression that vary along social identities (i.e., LGBTQ+ and heterosexual) create unique experiences of community (e.g., Crenshaw, 1989).

The second component of PSOC identified by McMillan and Chavis (1986) is influence. People tend to gravitate toward communities in which they can be influential, and group cohesion influences group members through increased likelihood of conformity; thus, the influence of individuals and the group are bidirectional. In interviews with 17 mental health practitioners across five small towns in rural Australia in a study exploring community effects on rates of suicide, participants identified that rich social networks of families who had been in an area the longest were "not only an asset but also a barrier to change" (Collins et al., 2017, p. 683). Given that participants from two towns discussed a general distrust and distancing of newcomers, these statements suggest both that families with longer residency influence the geographical community, and that the community impacts the group members through conformity by preventing change. Relatedly, in a systematic review of literature on experiences of newcomers in rural communities, Patten and colleagues (2015) reported a theme of a reluctance and lack of desire to include newcomers in community leadership roles and decision making. Newcomers themselves reported feeling new to the area for many years and identified the importance of belonging to the local community, suggesting they may experience low PSOC. Thus, being prevented from influencing a community appears to impact PSOC for newcomers to rural areas, aligning with the conceptualization of McMillan and Chavis (1986).

The third identified component of PSOC is integration and fulfillment of needs (McMillan & Chavis, 1986). McMillan and Chavis (1986) propose that values are the source of needs, and shared group values promote needs-fulfillment; group members fulfill their own and others' needs simultaneously; and different rewards, such as

individual status or group success, reinforce members' participation in the community. A role of this component in rural communities is exemplified by people with low SES who are excluded from their rural community (Kay, 2011; Sherman & Sage, 2011). For example, Kay (2011) conducted ethnographic fieldwork based in a social services center in a small rural village in western Siberia to explore formal and informal sources of care and social support. The author found that those with low SES who engaged in activities reflecting self-sufficiency and reciprocity with other villagers had higher belonging in the community and were seen as more moral and deserving of assistance. Those who were perceived as needing more assistance were excluded from opportunities for such activities through the social service agency and were viewed as morally deficient for not working hard enough to overcome the difficult economic circumstances experienced by all in the village. Similarly, in interviews with 55 residents (92% White, 55% men) of a rural California town impacted by the collapse of the local timber industry to explore personal and family histories and current concerns, Sherman and Sage (2011) identified the presence of moral and class divisions. Specifically, families with relatively higher SES tended to perceive lower SES families as lacking work ethic and unwilling to contribute positively to their communities. In turn, lower SES families perceived that their children were not given adequate attention, support, and encouragement in schools. This study provides an excellent example of a mesosystem (Bronfenbrenner, 1979), as the home microsystem (e.g., context of poverty) interacts with the school microsystem to influence the development of students; this interrelationship is then impacted by a macrosystem valuing hard work and self-reliance (e.g., Cheesmond et al., 2019).

Providing an example of positive experiences of integration and fulfillment of needs, Wilding and Nunn (2018) discussed the importance of a shared value of hospitality among White Australians and Karen refugees in a small Australian city that was self-identified by residents as rural. Based on interviews with 35 community leaders and service providers and participant observation methods at local events, the researchers identified that sharing a value of hospitality helped each group meet respective needs. For the refugees, receiving hospitality provided needed support as they resettled and providing hospitality provided a chance for connection with local residents. For the White Australians, providing hospitality supported the community's goal of both acting as and being perceived as a multicultural community. Shared values (i.e., hospitality) and mutual needs-fulfillment contributed positively to PSOC in this community.

The fourth and final component of PSOC identified by McMillan and Chavis (1986) is emotional connection. Frequent opportunities to interact, especially in positive and clearly defined ways, and investment in the community contribute to emotional connection. As discussed above, rural communities are often described as providing mutual support to residents (e.g., Walker & Raval, 2017), and existing research suggests that coming together for a common cause is a frequently shared positive activity in rural areas (e.g., Wilding & Nunn, 2018). In their study of refugee experiences of belonging in a rural area and the role of the community, Herslund (2021) interviewed rural Danish volunteers who assisted with supporting newly resettled refugees (n = 24; no further demographic information available). Interviews indicated that a small number of people in each of the seven towns included in the study initiated community mobilization efforts, primarily through social media. Residents gathered for communal meals, trips, and

collections of items needed by refugees. These events drew participation from local residents who were not typically involved in associations in the community and were experienced positively by many refugees, supporting the importance of shared, positive events in contributing to PSOC (McMillan & Chavis, 1986). The experiences of several refugees interviewed by Herslund demonstrate negative impacts of a lack of opportunity for interaction with community members as well. Several participants described that access to socialization occurred more formally (e.g., in clubs) than they were accustomed to in urban areas, and feeling unfamiliar and uncomfortable with these processes led to lower PSOC for some refugee families. Taken together, opportunities for social interaction and shared events appear important for building PSOC in rural areas and highlight the importance of those with privilege using it to reduce barriers to inclusion among those experiencing oppression (Herslund, 2021; McMillan & Chavis, 1986).

Taken together, qualitative research with residents of rural communities reveals both positive and negative experiences within each component of PSOC identified by McMillan and Chavis (1986). Rural folks who share identities and values with the majority of the people around them and provide and receive mutual support tend to have higher levels of PSOC than people with marginalized identities and newcomers to the area, although experiences of PSOC are nuanced and may often consist of both positive and negative experiences simultaneously for an individual or group (e.g., Abelson, 2016; Plastow, 2010; Watkins & Jacoby, 2007; Wilding & Nunn, 2018). These findings represent the influence of the macrosystem (e.g., local demographics, values) on the microsystems in which rural residents interact with their community (Bronfenbrenner, 1979). Building on an understanding of the lived experiences of rural residents through a

review of qualitative research, previous quantitative research provides a broader, more generalized perspective.

Experiences of Sense of Community: Quantitative Studies

Quantitative research has examined PSOC both within rural areas (e.g., Wilkinson, 2008) and in comparison to urban areas (e.g., Obst et al., 2001). Several studies have supported that psychological sense of community is higher in rural than urban areas (e.g., Kitchen et al., 2012). For example, Obst and colleagues (2001) found that region of residence significantly predicted PSOC in multiple regression, such that rural residents had higher levels than urban or regional residents. Avery and colleagues (2021) analyzed data from the 2016 Missouri Crime Victimization Survey (n = 1873); participants were primarily White (93% of rural sample and 80% of urban sample), roughly balanced in sex (51% female, 49% male), and distributed across rural (n = 863) and urban (n = 1010) locations. They found that sense of cohesion (which is conceptualized to be comprised of several factors, including PSOC; Buckner, 1988), and specifically items measuring sense of trust, neighbors' willingness to help, and feeling one's community was close knit, were significantly higher for rural compared to urban Missourians. Notably, these items are closely related to the factors of PSOC identified by McMillan and Chavis (1986). These results suggest that further exploration of sense of community specific to rural areas is warranted.

Research on PSOC in rural areas has identified a range of variables that both predict and are predicted by PSOC, including demographic variables (Avery et al., 2021; Wilkinson, 2008) and community engagement (Kulig et al., 2018). In a study conducted by Wilkinson (2008), 1,995 rural Canadians from 20 communities selected to be

representative of a range of characteristics of rural areas (no further demographic information available) completed a measure of social cohesion with PSOC as a subscale. Wilkinson found that being older, living in the community for a longer time, being born in one's current community, having at least one child, and having a household income greater than $20,000 positively predicted PSOC. Avery and colleagues (2021; discussed above) similarly found that age, income, and holding a bachelor's degree positively predicted sense of cohesion in rural Missourians. Finally, among 2,116 Canadian nurses working in rural areas (further demographic information unavailable) who participated in a study exploring predictors of PSOC and community engagement, those who were high in both PSOC and community engagement were more likely to perceive their work area as rural (instead of remote), have grown up in a small childhood community (population < 500), be married, and be in the oldest measured age group (50-59 years old; Kulig et al., 2018). Taken together, various aspects of history with one's community or rurality in general, family composition, SES, and age appear to predict PSOC in rural areas. These results highlight the importance of an ecological approach and provide examples of relevant mesosystems (e.g., interaction of home and social microsystems, work and social microsystems) and the potential effect of macrosystems that vary across levels of rurality (i.e., remoteness, population density; Bronfenbrenner, 1979).

Notably, research in rural and urban communities has found individual-level variables (e.g., length of time lived in community) to explain more variance in PSOC than community-level variables such as income (i.e., average income within a city block) and economic stability (i.e., percentage of the community's workforce employed in industries with fluctuating economies; Long & Perkins, 2007; Wilkinson, 2008).

However, in a mixed methods study exploring the interrelationships among community social networks and various perceptions of one's community across six rural Canadian communities (n = 150), Crowe (2010) found that individuals in one community with a complete social network (i.e., ties throughout the community that connected different parts together) tended to view their community's social environment more positively, including reporting higher levels of friendliness, trust, tolerance, and openness to new ideas, than individuals in communities with more fragmented social networks. These community perceptions are conceptually similar to components of PSOC, including membership and influence, and were influenced by the community itself rather than individual-level variables.

Previous research has also identified several variables predicted by PSOC in rural communities, including psychological and community-based outcomes. For example, in their interviews with 17 Australian rural mental health providers, Collins and colleagues (2017) concluded that "the underlying mechanism shaping mental health outcomes in rural communities is connectedness" (p. 684) and that place effects on suicide rates operate through community connectedness. Among towns of 3,000-7,000 residents in Victoria, Australia, the authors identified the two towns with the highest suicide rates and the two towns with the lowest suicide rates from which to recruit participants in order to investigate the contributions of place on rural suicide rates. Specifically, the two communities with high suicide rates were described as low in social cohesion and potentially isolating, whereas the communities with low suicide rates were described by participants as supportive and generally welcoming. Further research supporting the connection between PSOC and mental health will be discussed in the Outcomes section.

In addition to psychological outcomes, PSOC has been found to predict community-based outcomes such as community engagement (e.g., Wolfe et al., 2020). For example, Kulig and colleagues (2018) found that PSOC predicted community engagement among rural Canadian nurses. Relatedly, in a mixed methods study of associations between community experiences and migratory intentions in a rural Ohio community, results indicated that the magnitude of discrepancy between the value one places on sense of community and experienced PSOC positively predicted intentions to leave the community in the next five years (Wolfe et al., 2020). Fifty-four percent of participants were female, 53% were married, and the majority were White. Taken together, previous research suggests that experiences of PSOC impact short- and long-term engagement within one's community (Kulig et al., 2018, Wolfe et al., 2020).

Finally, research has examined the role of PSOC as both a mediator and moderator of the relationship between community characteristics and relevant outcomes for youth of color in urban settings (e.g., Lardier, MacDonnell, et al., 2018). Research on rural populations including PSOC as a mediator or moderator is extremely limited (Kutek et al., 2011); however, there is relevant literature that focuses on people in urban environments. Perceptions of neighborhood cohesion was found to mediate the effect of identified neighborhood characteristics, including percentage of African American residents, residential stability, and unemployment, on both depressive and anxious symptoms among urban African American youth (n = 571; Hurd et al., 2013). Participants had an average age of 17.8 years old, and 52% were female. Similarly, Lardier, MacDonnell, and colleagues (2018) found that PSOC moderated the effect of both social disorganization and engaging in violent behavior on substance use among

urban Hispanic adolescents (13-18 years old) in high-conflict homes. These interactions were not significant for adolescents in low-conflict homes, and the authors suggested that a need for reliance on community resources in the absence of familial support explain these results. Of the 538 participants included, 79% qualified for free and reduced lunch and 53% were female. Thus, previous research has found that, among populations with marginalized identities, PSOC may help explain (Hurd et al., 2013) or protect against (Lardier, MacDonnell, et al., 2018) negative impacts of neighborhood characteristics on individual outcomes. Exploring these connections among rural populations is warranted.

Taken together, results of quantitative research support conclusions from qualitative research described above that aspects of identity and demographic variables relate to the experiences of PSOC among rural residents. Specifically, the length of time one has spent in their community, older age, having children, and higher SES predict higher PSOC (Avery et al., 2021; Kulig et al., 2018; Wilkinson, 2008). Thus, those with privileged identities and those whose values appear to align with family values of rurality (e.g., Watkins & Jacoby, 2007) appear to experience higher levels of PSOC, complementing qualitative findings that newcomers (Patten et al., 2015) and those with marginalized identities (e.g., Plastow, 2010; Sherman & Sage, 2011) often experience lower PSOC. These results further support the use of an ecological systems (Bronfenbrenner, 1979) approach, as the way people are treated resulting from beliefs in the macrosystem (e.g., White supremacy) influence their experience within microsystems of social interaction. In addition, PSOC has been proposed to lead to important outcomes, including mental health (e.g., Collins et al., 2017) and behavioral engagement with community (e.g., Kulig et al., 2018). Based on the qualitative and quantitative research

reviewed here, the proposed study will explore the effect of PSOC on mental health outcomes as both a potential mediator and a moderator of the relationship between perceptions of rurality and mental health outcomes.

Place Attachment

Place attachment is defined as the psychological and emotional "bonding that occurs between individuals and their meaningful environments" (Scannell & Gifford, 2010, p. 1; Zahnow & Tsai, 2021). Although place attachment is often conceptualized as a multidimensional construct, there is a lack of consensus about both components that make up place attachment as well as the ways in which place attachment relates to other variables that fall under the umbrella of sense of place (Anton & Lawrence, 2014; Lewicka, 2011b; Scannell & Gifford, 2010). Scannell and Gifford (2010) synthesized existing definitions and research on place attachment to develop a framework for conceptualizing place attachment. Their framework consists of three dimensions: *person*, or the individual- and group-level meanings of a place; *psychological process*, including affective, cognitive, and behavioral components of individuals' relationship with place; and *place*, including both social and physical aspects. Lewicka (2011b) also summarizes the social and physical aspects of place that may facilitate place attachment, with social aspects including community ties and symbolic meanings of place and physical aspects including natural beauty, recreation, and rest. In their study of rural Texans' perceptions of rurality, Theodori and Willits (2019) included both social and physical aspects of place (e.g., neighborliness, close to nature). An ecological systems approach reflects the influence of both place (i.e., macrosystem) and social interactions (i.e., microsystem) on individual experiences (i.e., place attachment; Bronfenbrenner, 1979). As such, place

attachment can be understood to reflect experience of both the macrosystem (e.g., natural recreational amenities; Stedman, 2006) and the microsystem (e.g., relationships with those who live in one's hometown; Riethmueller et al., 2021). Although researchers often operationalize place attachment differently from one another, they generally include two or more of the elements of the tripartite framework described above (Scannell & Gifford, 2010). Due to the discrepancies across conceptualizations of place attachment and in an effort not to exclude potentially important aspects of the construct, the proposed study will utilize a unidimensional measure of place attachment that includes a range of important elements identified by Scannell and Gifford (2013). The remainder of this section will briefly summarize various conceptualizations and previous literature on place attachment and highlight research conducted with rural populations.

Conceptualizations of Place Attachment

Several approaches to conceptualizing dimensions of and relationships with place attachment can be found in the literature (Lewicka, 2011b). One approach to conceptualizing place attachment posits that place identity and place dependence are the primary factors (e.g., Anton & Lawrence, 2014; Williams & Vaske, 2003). *Place identity* refers to the aspects of self that develop through relationships to place (Proshansky et al., 1983) and is widely considered to be primarily cognitive and emotional in nature (Manzo & Perkins, 2006; Scannell & Gifford, 2010). *Place dependence* refers to the role of physical aspects of place in providing resources or helping individuals meet relevant goals (Stokols & Shumaker, 1981). Another approach considers place attachment, place identity, and place dependence as interrelated components of sense of place (e.g., Jorgensen & Stedman, 2001; Pretty et al., 2003). Within this approach, Hernandez and

colleagues (2007) suggest measuring place attachment and place identity separately. Yet another research base has indicated that the development of place attachment precedes that of place identity (e.g., Hernandez et al., 2007). For example, Ruiz and colleagues (2011) found that levels of place attachment did not vary across the number of years lived in one's community, whereas place identity increased over time. The researchers concluded that place attachment develops quickly, preceding the development of place identity. Taken together, theory regarding place attachment is particularly complex.

Previous research has found place attachment to be related to community-based variables, such as psychological sense of community (PSOC), as both a predictor and an outcome (e.g., Lewicka, 2010; Scannell & Gifford, 2016). In a synthesis of the literature intended to integrate the literature bases of place attachment and community planning, Manzo and Perkins (2006) assert that both social ties and place attachment are important for community functioning. The authors developed a framework of psychological concepts within the study of community that organized social and physical aspects of community into cognitive, affective, and behavioral components. Place attachment was categorized as an affective place dimension, whereas PSOC was categorized as an affective social dimension (Manzo & Perkins, 2006). The inclusion of PSOC in the current study and shared focus on affect of these two variables contributed to the decision to include place attachment in the proposed study instead of another place-based variable.

Research on Place Attachment

Given the importance of social features of a community in the development of place attachment (e.g., Scannell & Gifford, 2010) and the theoretical relationship between place-based values and social aspects of community more broadly (Manzo &

Perkins, 2006), previous research on experiences of place attachment among rural populations and the relationship of social community variables and place attachment will be reviewed. In particular, the contributions of previous research to understanding the relationship between PSOC and place attachment, which is a focus of the proposed study, will be emphasized.

Qualitative research with college students who have moved away from a rural area (e.g., Pedersen, 2018) reveals a range of components of place attachment identified by Scannell and Gifford (2010). Pederson (2018) interviewed 14 Danish, young adult college students (50% women) who lived in a rural area before moving to a large city for college about their experiences with place attachment and migration, and Riethmuller and colleagues (2021) interviewed 11 Australian college students in a large city (72.7% women) who had previously lived in a rural area about a range of their thoughts on returning to live in a rural area and experiences with place attachment. Regarding person dimensions of place attachment, several participants across both studies discussed the importance of positive childhood experiences and memories in building a sense of attachment with their hometown (Pedersen, 2018; Riethmuller et al., 2021). Regarding place dimensions, participants across both studies identified the importance of social aspects of place, including maintaining social relationships with former high school classmates specifically (Pedersen, 2018) and interpersonal relationships more broadly (Riethmuller et al., 2021). Several participants interviewed by Riethmuller and colleagues (2021) described a diminishing attachment to place as people they had significant relationships with in their hometown moved away. Finally, social contributions to a preferred lifestyle, including a strong sense of community (e.g., community members

knowing and supporting one another) and a desirable setting for raising children, were highlighted by Australian participants (Riethmuller et al., 2021).

Physical aspects of place, particularly a connection to farming, increased place attachment for several participants (Riethmuller et al., 2021). Across studies, college students identified better access to amenities, including educational institutions and shops, as increasing their attachment to their new urban location (Pedersen, 2018; Riethmuller et al., 2021). Finally, regarding person dimensions of place, affective, cognitive, and behavioral aspects of place attachment were identified. Affective connections included a sense of pride in being raised in one's home community as well as ambivalence in response to mixed perceptions of both positive and negative aspects of one's rural home community (e.g., safe and isolating, nurturing and restricting; Pedersen, 2018). An important cognitive component identified was a strong sense of identity related to one's community, including strengths perceived as related to their upbringing in their rural hometown (Pedersen, 2018). Across studies, participants engaged in behavioral aspects of place attachment by visiting family members and significant others in their hometown (Riethmuller et al., 2021) and maintaining relationships with hometown friends who had moved to attend the same college (Pedersen, 2018) in order to maintain contact and connection with their hometown. The results of these studies support the importance of taking a broad and holistic understanding of place attachment, such as that suggested by Scannell and Gifford (2010), as well as the importance of place attachment for rural populations.

Several studies have identified PSOC or related variables as predictors of place attachment (e.g., Stedman, 2006). In a review of the literature on place attachment,

Lewicka (2011b) identified community ties as the most frequently studied social predictor of place attachment. For example, among a sample of rural residents (n = 260; no further demographic information available) in a Wisconsin area high in natural amenities, participation in social networks and deriving meaning from social, as opposed to physical, aspects of place (i.e., seeing place as a community of neighbors), predicted place attachment (Stedman, 2006). In addition, neighboring behavior was found to moderate the effect of crime victimization on place attachment among participants from an Australian city (n = 4,249; 60.1% female, 24.5% immigrants; Zahnow & Tsai, 2021). Importantly, PSOC measures affective and cognitive aspects of community relationships, whereas the studies described here measure community-related predictor variables that consist in part (Stedman, 2006) or entirely (Zahnow & Tsai, 2021) of behavioral indicators. Taken together, research supports that level of interaction with community members predicts place attachment.

Alternatively, previous research has found that place attachment predicts elements of PSOC (e.g., Scannell & Gifford, 2016). In a sample of New York City residents (n = 1,081; 65% female; 47% White; 47% Black), place attachment measured at both the individual level and the block level predicted PSOC (Long & Perkins, 2007). In addition, in qualitative analysis of written responses to open-ended questions completed by a sample of Canadians (n = 97; 50.5% female) in a study focusing on experiences and perceived benefits of place attachment, 80% of participants who identified a town or city as their focal place of attachment for the study identified a sense of belonging, including feeling at home and connecting with others, as a benefit of being attached to that place (Scannell & Gifford, 2017). Notably, a sense of belonging contributes to membership,

one of four components of PSOC (McMillan & Chavis, 1986). Finally, in an experimental study in which one group was asked to imagine and describe in detail a place they were attached to and the other group was asked to do the same for a neutral place, those in the experimental group reported higher levels of belonging (Scannell & Gifford, 2016). Participants were Canadian undergraduate students (n = 133) and primarily women (68.4%) and White (67.8%). These results are particularly notable given the preponderance of research in this area that utilized cross-sectional survey data and is thus unable to determine causation among place attachment and PSOC (Lewicka, 2011b). Although none of the research described here focused on rural populations, both qualitative and quantitative results suggest that place attachment predicts PSOC.

Research on place attachment in rural areas often focuses on out-migration (e.g., Riethmuller et al., 2021) or tourism and natural amenity-based economies (e.g., Stedman, 2006), with very limited research exploring place attachment more generally (Anton & Lawrence, 2014; Pretty et al., 2003). In one study of place attachment with a focus on rurality, Anton and Lawrence (2014) surveyed 600 Australian residents across rural and urban areas in order to explore group differences in place attachment (measured as place identity and place dependence) based on one's location and predictors of place attachment. Participants were primarily women (83.8%; no further demographic information available). Results indicated that rural residents had higher levels of place identity than all urban residents and higher place dependence than urban residents who did not live in bushfire-prone areas. However, in a multiple regression analysis, location (urban or rural) did not significantly predict place dependence or place identity. Similar to findings about PSOC (Wilkinson, 2008), place attachment components were predicted

by being born in one's local area and length of residence (Anton & Lawrence, 2014). Significant predictors also included both social (i.e., belonging to clubs) and physical (e.g., choosing to live in an area for its physical attributes) aspects of place. Thus, although experiences of place attachment appear to be unique in rural areas, it appears that population size is insufficient to explain levels of place attachment.

In an effort to better understand the interrelationships among sense of place variables in a rural Australian sample (n = 246, women = 79%), Pretty and colleagues (2003) found that PSOC, place attachment (operationalized as neighboring to represent behavioral commitment and perceptions of one's friends and relationships with the neighborhood to represent emotional bonding), and one of three dimensions of place dependence (quality of community activity) together correctly classified adults' place identity in 76.4% of cases in a discriminant function analysis and accounted for 92% of differences between groups. Given the wide range of operationalization of place attachment and similar place-related variables (e.g., Scannell & Gifford, 2010) and the limited quantitative research to understand place attachment in rural populations, further research is warranted.

Despite difficulty establishing conceptual and methodological consensus in research on place attachment (e.g., Scannell & Gifford, 2010), place attachment appears to be important at both individual- (e.g., Scannell & Gifford, 2016) and community-level outcomes (e.g., Manzo & Perkins, 2006). Cross-sectional research has found that community relationships and interaction predict place attachment (e.g., Stedman, 2006), and a combination of cross-sectional and experimental research supports the effect of place attachment on both PSOC and belonging (Long & Perkins, 2007; Scannell &

Gifford, 2016). Given that among research connecting PSOC and place attachment, outcome variables are more consistent conceptually with PSOC among studies supporting place attachment as a predictor, as well as experimental evidence supporting the causal relationship of place attachment as a predictor of PSOC (Scannell & Gifford, 2016), place attachment is hypothesized as a predictor of PSOC in the proposed study.

In addition to contributing to an increased understanding of place attachment generally, the current study aims to fill a gap in the literature by sampling current, full-time rural residents, given that much of the research on place attachment in rural populations focuses on tourists, second homeowners, and out-migrants (e.g., Pedersen, 2018; Stedman, 2006). Preliminary evidence from previous research has suggested both the importance and unique experience of place attachment to one's local area among rural residents (e.g., Anton & Lawrence, 2014; Riethmuller et al., 2021), and the proposed study intends to increase understanding of place attachment in this population.

Belonging

Belonging, or "form[ing] and maintain[ing] at least a minimum quantity of lasting, positive, and significant interpersonal relationships" is proposed to be a fundamental human need (Baumeister & Leary, 1995, p. 497). Hagerty and colleagues (1992) define sense of belonging "as the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment" (p. 173) and identify two dimensions: a sense that one is valued, needed, and accepted; and personal fit with the system or environment. A sense of belonging can be experienced across a range of relationships, including with family, friends, and within one's community (e.g., Baskin et al., 2010). A sense of belonging thus reflects

interactions across a broader range of microsystems than PSOC, which is operationalized in the proposed study in reference to one's community of residence (Bronfenbrenner, 1979). Given the involvement of multiple microsystems, belonging may also reflect experiences at the mesosystem level where microsystems interact with one another (e.g., work hours preventing participation in community events, contributing to low sense of belonging; Caxaj & Gill, 2017). Research has supported a range of important mental health outcomes associated with belonging (Allen et al., 2021), and thwarted belongingness has been found to predict suicidal ideation and suicide risk in a meta-analysis (Chu et al., 2017). In addition, belonging has been a focus of study across a range of diverse populations, including LGBTQ+ individuals (e.g., Poteat et al., 2011), people of color (e.g., Lardier et al., 2019), adolescent students (e.g., Baskin et al., 2010), and young adults with disabilities (e.g., Meijas et al., 2014). This section will review relevant literature in order to highlight the importance of belonging in rural areas and identify potential relationships with other variables of interest in the proposed study.

Several aspects of rurality highlight the importance of belonging among rural residents. First, due to limited access to formal support systems in comparison with urban areas, informal support systems are particularly important; belonging can be expected to facilitate access to informal networks, highlighting the potential importance of this construct (Caxaj & Gill, 2017). This can be understood as an interaction between the macrosystem and microsystems in which social interactions occur (Bronfenbrenner, 1979), as the macrosystem (lack of access to formal support systems) impacts the opportunity for and quality of social interactions, and building mutually supportive social interactions (belonging) can help compensate for difficulties resulting from the

macrosystem itself. Second, for individuals with marginalized identities, such as transgender individuals (Barr et al., 2016), sense of belonging within identity-based communities is important for predicting well-being. Similarly, among samples of Mexican American (*n* = 200; 69% women) and Asian international (*n* = 134; 53% men) students from two U.S. universities, sense of connectedness (which is closely related to and at times used synonymously with belonging; Caxaj & Gill, 2017) with one's ethnic group and with mainstream society were distinct but related constructs (Yoon et al., 2012). Belonging at both levels was related to various indicators of subjective well-being. Given underrepresentation in populations of people of color (Castillo & Cromartie, 2020) and experiences of invisibility of one's sexual or gender identity among LGBTQ+ populations (e.g., Kennedy, 2010) in some rural areas, understanding the role of sense of belonging among diverse rural populations is particularly important.

Qualitative Research with Rural Populations

Qualitative research has begun to explore the role of belonging among rural populations. Analyzing interview data from a subset of rural participants in a longitudinal study of Australian adults (no demographic information available), Cuervo and Wyn (2017) identified that rural residents construe a sense of belonging through aspects of place, quality of relationships, and ways of being, with different aspects contributing more strongly for different people. The authors concluded that belonging is a process that occurs over time through everyday experiences. In addition, Terman (2014) identified the importance of both internal and external structural processes in developing a sense of belonging in rural populations, stating that "the dynamics between individuals and their social milieu create conditions where belonging is more or less likely, and young people

then construct a sense of belonging from different positions in relation to their communities" (p. 105). Additional qualitative research on belonging in rural areas has identified a range of barriers to belonging (e.g., Caxaj & Diaz, 2020), as well as alternative pathways to belonging for those who would otherwise experience exclusion (e.g., Terman, 2014), which will be described in more detail below.

Previous studies have explored the experiences of belonging among Canadian people of color in rural areas (Caxaj & Diaz, 2020; Caxaj & Gill, 2017). Caxaj and Diaz (2020) interviewed temporary migrant agricultural workers from Jamaica and Mexico (N = 17) working in rural Canada. Participants highlighted experiences of racism that they attributed to language barriers and negative stereotypes about their ethnic identity held by community members, as well as a sense that others were indifferent to them. These experiences led to participants feeling that they did not belong in the local community. Participants also highlighted experiences of belonging, mutual support, and camaraderie among fellow temporary migrant workers, highlighting the importance of within-group belonging described above (e.g., Yoon et al., 2012). In addition, Caxaj and Gill (2017) interviewed 19 rural Indian-Canadian adults (63% women). Participants identified a range of barriers to a sense of belonging in their community, including language barriers, work responsibilities unique to work in the agricultural sector, financial restraints, and cultural differences broadly. One participant noted feeling that the broader local community only included the Indian-Canadian community in events when they wanted financial contributions, and another noted a sense that certain spaces in the community were only for White residents. Both of these experiences contributed to a low sense of belonging in the community. Whether through experiencing overt hostility and racism

from White community residents or through a lack of intentional inclusion in community-building efforts, participants in both studies (Caxaj & Diaz, 2020; Caxaj & Gill, 2017) often felt that they did not belong in the larger rural community in which they lived.

In addition to research with people of color in rural settings, previous research has also explored belonging among rural individuals with disabilities (e.g., Robinson et al., 2020). Robinson and colleagues (2020) engaged 30 individuals with intellectual disabilities living in rural Australia (12-25 years old, no further demographic information available) in interviews and a photo research project. In general, participants who felt that others identified them primarily by their disability expected to experience prejudice and tended to have fewer friends and places in which they felt comfortable and accepted. In addition, participants identified that feeling uncomfortable or unwelcome in a particular social situation or setting often led to removing themselves from or avoiding the situation. The adolescents and young adults with intellectual disabilities who participated in this study thus experienced barriers to a sense of belonging through experiences of discrimination and prejudice, and this reduced sense of belonging led to increased isolation for some.

In addition to barriers to belonging, rural qualitative research has also identified several pathways to belonging among people who experience oppression (e.g., Terman, 2014), highlighting the importance of a nuanced and contextualized approach to understanding belonging in rural areas. Specifically, Butler (2019) identified that connecting through shared values, interests (e.g., popular culture), and play (e.g., sports) were helpful strategies to achieve belonging at school among refugee children in

Australia, given that the children were unable to experience belonging through localism, or a shared history among community members and the local area.

Similarly, research has highlighted pathways to belonging among rural young adults. Terman (2014) conducted interviews and focus groups with 92 college students and recent college graduates from 13 counties in West Virginia, with a focus on capturing intersectional experiences with rural communities. In addition to capturing barriers to belonging, Terman highlighted ways that participants accessed belonging. Several participants described that their rural location was the only place where they experienced a sense of community through both their place and sexual or racial identity, as they had experienced alienation due to their intersecting identities or expectations to obscure their place-identity. In addition, participants described ways in which they reconciled conflicting experiences of belonging and alienation at both internal and external levels. For some, a sense of place identity, internal work to overcome or accept feeling different, or privilege in other identities facilitated reconciliation of internal and external experiences of belonging. Relatedly, a sense of place, including familiarity with one's town and being able to go places in order to spend time with people, facilitated a sense of belonging among young people with intellectual disabilities as well (Robinson et al., 2020). The findings from Terman's (2014) research highlight that experiences of belonging and experiences of discrimination often occur simultaneously and underscore the mental and emotional labor that is required to achieve a sense of belonging for many rural residents who have marginalized identities.

Quantitative Research with General Populations

Because previous quantitative research exploring the role of belonging among rural populations specifically was unable to be identified, research with non-rural populations connecting belonging to other variables of interest in the proposed study is reviewed here. Specifically, results have supported belonging as a mediator (e.g., Poteat et al., 2011), a moderator (Baskin et al., 2010), and an outcome (Lardier et al., 2019) across research in counseling psychology and related fields.

Belonging has been supported as a mediator for both internal and external predictor variables and educational and mental health outcomes (Poteat et al., 2011; Shelton et al., 2020). Among a sample of students in a densely populated Wisconsin county (N = 15,923; ages 10-18 years; 94.2% heterosexual; 76.4% White; 50% girls), belonging and suicidality were modeled as parallel mediators for significant indirect effects of general and homophobic victimization and parent support on a range of educational outcomes among LGBTQ+ youth (Poteat et al., 2011). In addition, belonging was correlated with suicidality at a small effect size for LGBTQ+ youth across racial and ethnic identities. In addition, belonging was found to mediate the effect of attachment style on a wellness composite variable consisting of measures of well-being and psychological distress among a sample of Latinx immigrants in Texas (N = 330; 71.2% women; 83.3% spoke only Spanish at home). Taken together, results support the relationship of belonging to mental health outcomes (e.g., suicidality; Poteat et al., 2011), specifically the role of belonging as a mediator predicting mental health outcomes (Shelton et al., 2020).

In addition to results regarding mediation, belonging has also been supported as a moderator for mental health outcomes (Baskin et al., 2010). In a sample of 294 eighth grade students in the San Francisco Bay area (29.5% Asian American), belonging was found to moderate the effect of loneliness on depression, such that students with lower belonging had a stronger relationship between loneliness and depression. Baskin and colleagues (2010) identified belonging as a strengths-based construct and identified the importance of moderation analyses in identifying areas for intervention.

Finally, several studies have positioned belonging as an outcome variable. For example, Lardier and colleagues (2019) found that school belonging was predicted by social support through PSOC among a sample of urban high school students of color (N = 401; 57% Latinx; 54.7% young women). Similarly, utilizing one-item measures for each of the four dimensions of PSOC described above (McMillan & Chavis, 1986), contextualized for a Christian church congregational setting, each of the four dimensions significantly predicted a sense of belonging to one's congregation among Christian churchgoers across the U.S. (N = 86,863; no further demographic information available; Mammana-Lupo et al., 2014). These results support the relationship between belonging and PSOC, such that PSOC significantly predicts belonging both alone (Mammana-Lupo et al., 2014) and as a mediator (Lardier et al., 2019).

Taken together, qualitative and quantitative results from previous studies support further exploration of belonging among rural populations. In particular, qualitative findings that the role of place and place identity can be important in belonging in rural areas across a range of diverse populations (Cuervo & Wyn, 2017; Robinson et al., 2020; Terman, 2014) support a quantitative exploration of relationships among place variables,

such as place attachment, and belonging and reflect the influence of the macrosystem. In addition, it appears the interaction between the exosystem of the rural community broadly and various microsystems (e.g., work) may facilitate belonging for some residents more than others (Caxaj & Gill, 2017). The proposed study will fill a significant gap in the literature by quantitatively exploring the relationship of belonging with place- and community-based variables. Further, the importance of belonging within identity-based communities (e.g., Barr et al., 2016) and barriers to belonging within the broader local community (e.g., Caxaj & Gill, 2017) among people with marginalized identities highlight the importance of exploring belonging in a diverse rural population with an eye toward increasing socially just outcomes among marginalized populations living in rural areas. Finally, given a range of experiences with belonging in rural areas, such that some negotiate and achieve a sense of belonging and others do not in the context of external barriers to belonging (e.g., Terman, 2014), it is important to develop a further understanding of this construct among rural populations.

Mental Health Outcomes

Mental health consists of two separate continua, one for mental illness and one for well-being. Considering one's status (i.e., high or low) on both continua provides a more complete picture of mental health than either continuum alone or a continuum in which mental illness and well-being are opposite one another (Keyes, 2002). Thus, mental health also consists of the presence of indicators of well-being rather than merely the absence of mental illness (Keyes, 2002; Ryan & Deci, 2001). Recent research has supported the dual continuum model of mental health in samples of Canadian college students (Peter et al., 2011) and Australian sexual minority adults (du Plooy et al., 2019),

such that mental illness and well-being overlapped for some (e.g., high in mental illness and low in well-being), and others were categorized as high in both mental illness and well-being or high on neither continuum. For these reasons, both psychological distress and well-being will be measured in the proposed study.

Taken together, research supports the importance of community-related variables, such as sense of community, in predicting individual psychological distress and well-being in rural areas (e.g., Glendinning et al., 2003; Kutek et al., 2011), as well as more broadly (e.g., Fone et al., 2014; Stewart & Townley, 2020). In their qualitative study of the impact of sense of community on local suicide rates in rural communities, Collins and colleagues (2017; described above), concluded the following:

> "We propose that the underlying mechanism shaping mental health outcomes in rural communities is connectedness, and that the impact of place on mental health is fundamentally exerted through the influence of identified factors that build on or impede one's overall level of connectedness" (p. 684).

This statement highlights the importance of community perceptions and experiences in rural mental health outcomes. Further, in a study of rural Australian adults (N = 2,639; 59% female; 67% with 12 or more years of education), Kelly and colleagues (2011) found that, in multiple regression analyses including a range of predictors and covariates, PSOC predicted both psychological distress and well-being. Based on the established relationship between PSOC and mental health outcomes, well-being and psychological distress may reflect the influence of microsystems, as well as macrosystems (e.g., SES; Linn et al., 1990) on individual functioning (Bronfenbrenner, 1979). In addition, given the correlational nature of studies demonstrating a relationship between PSOC and

mental health outcomes (e.g., Kelly et al., 2011), it is possible that these relationships represent an individual's influence on their environment (Bronfenbrenner, 1979), for example by withdrawing from social events due to depression. The following sections will introduce relevant theories of mental health as well as review research on well-being and psychological distress, with a particular focus on research with rural populations and the importance of sense of community in mental health outcomes.

Well-Being

Well-being "refers to optimal psychological functioning and experience" (Ryan & Deci, 2001, p. 142) and has been conceptualized from two overarching approaches: hedonic and eudaimonic. Hedonic well-being focuses on pleasure and happiness and can be measured with such constructs as satisfaction with life or mood and affect (Ryan & Deci, 2001). Within this approach, subjective well-being (SWB) has emerged (Lent, 2004; Ryan & Deci, 2001); SWB consists of life satisfaction, presence of positive affect, and absence of negative affect (Ryan & Deci, 2001). Eudaimonic well-being focuses on fulfilling one's potential and seeking purpose and meaning in life (Lent, 2004; Ryan & Deci, 2001). Psychological well-being (PWB) is the dominant well-being paradigm used to represent the eudaimonic approach (Lent, 2004) and consists of six domains: autonomy, personal growth, self-acceptance, purpose in life, environmental mastery, and positive relations with other (Ryff, 1989). Keyes (2002) integrated aspects of both hedonic and eudaimonic well-being into the concept of flourishing. Specifically, flourishing consists of experiencing positive emotions and functioning well in psychological and social domains, thus encompassing aspects of SWB, PWB, and social well-being (attitudes toward and relationships with society at various levels; Keyes 1998,

2002). The current study will utilize a measure of flourishing that includes items measuring social and psychological well-being (Diener et al., 2010), thus representing a eudaimonic approach to well-being. However, given the limited research on well-being among rural populations, the following section will review research across domains of well-being more broadly.

Rurality itself has been found to positively predict well-being in several studies. For example, domains of SWB were found to be higher for Scottish remote rural residents (life satisfaction; Gilbert et al., 2016) and rural sexual minorities in the United States (happiness; Wienke & Hill, 2013) compared to their urban counterparts. In addition, among a sample of lung cancer survivors across urban and rural locations (N = 193; 93% White; 53% female), location of residence predicted post-traumatic growth both directly and indirectly through psychological distress such that rural residents experienced higher levels of both post-traumatic growth and distress (Andrykowski et al., 2017). The authors suggest that, given results indicated partial mediation, intrapersonal and/or interpersonal characteristics unique to rural life may further explain the relationship between rurality and increased post-traumatic growth. Taken together, research suggests that well-being may be uniquely experienced in rural areas and warrants further exploration.

Previous research has supported the importance of community perceptions and relationships in predicting well-being among rural residents as well (e.g., Stacciarini et al., 2015). For example, in a sample of 185 Australian men, Kutek and colleagues (2011) found that PSOC had both a positive direct effect on life satisfaction as well as an indirect effect through stress. In addition, in a mixed methods study of well-being among rural

Latinx families, experiences of social isolation were correlated with mental well-being (operationalized as vitality, social functioning, emotions, and mental health) among both Latinx adolescents (n = 31, 58% female; 67% preferred speaking English) and their mothers (n = 31, 94% used Spanish language forms) in rural Florida (Stacciarini et al., 2015). Complementing findings that PSOC positively predicts SWB (Kutek et al., 2011), Stacciarini and colleagues (2015) highlighted that being excluded or feeling disconnected from others predicts lower levels of SWB and PWB. Taken together, research supports a positive relationship between sense of community and well-being among rural residents.

Similar patterns of results have emerged in research not specific to rural populations. For example, Stewart and Townley (2020) concluded in their systematic literature review that PSOC has demonstrated robust positive relationships with SWB, PWB, and social well-being. In addition to the importance of PSOC, research has supported the importance of place attachment in association with well-being (Rollero & Di Picolli, 2010; Scannell & Gifford, 2017). Specifically, in an online qualitative study on the benefits of place attachment among Canadian residents, Scannell and Gifford (2017; described above) found that positive emotions (e.g., happiness, joy, hope, pride), personal growth, and freedom were frequently described benefits of place attachment. Among people who identified a town or city as their focal place of attachment (n = 15), 40% reported positive emotions, 26.7% reported personal growth, and 20% reported freedom as benefits, thus reflecting aspects of both PWB (personal growth, autonomy; Ryff, 1989) and SWB (positive emotions; Ryan & Deci, 2001). Taken together, both general (Stewart & Townley, 2020) and rural-specific research (e.g., Kutek et al., 2011) support the inclusion of well-being as an outcome variable in the proposed study.

Despite initial evidence supporting the relationship between perceptions of community experiences and relationships and various components of well-being among rural populations (e.g., Kutek et al., 2011), research in this area is limited. In addition, no studies assessing the relationship between place attachment and well-being among rural populations could be located. Quantitative exploration in the current study seeks to fill a gap in understanding the role of community variables in predicting well-being. In contrast to the constructs described above, relatively little research has explored the effect of rural macrosystems on well-being. By measuring objective aspects of rurality (e.g., population density), the current study will contribute to this gap in the literature as well.

Psychological Distress

In addition to measuring eudaimonic well-being, the proposed study will measure psychological distress in accordance with the dual continuum model of mental health (Keyes, 2002). Many people who meet diagnostic criteria for a psychological disorder share a non-specific dimension of psychological distress consisting of cognitive, behavioral, emotional, and psychophysiological symptoms (Dohrenwend et al., 1980, cited in Kessler et al., 2002). Notably, the medical model, in which remediation of mental illness or distress is the focus of intervention, has historically dominated the field of health psychology, with well-being recently increasing in popularity as part of the positive psychology movement (Lent, 2004; Ryan & Deci, 2001). Research highlighting levels and predictors of psychological distress in rural areas is highlighted below.

Results of several studies suggest that levels of psychological distress may vary by rurality. In their analysis of data from rural and urban residents across the U.S., Dhingra and colleagues (2009) found that urban residents (n = 54,158; 51% women; 60%

White) had a 22% higher likelihood of experiencing mild to moderate or severe psychological distress compared to rural residents (*n* = 8,755; 51% women; 71% White), and this likelihood dropped to 17% after controlling for demographic covariates. In contrast to 12.8% of the rural sample, 15.2% of the urban sample experienced elevations in psychological distress. Further, although Butterworth and colleagues (2014) found that, among Australian participants (*n* = 2,609; 59% female), psychological distress was highest in very remote rural areas and lowest in outer regional and remote areas, these differences were no longer significant after including covariates in the model. Rather, within a rural sample, psychological distress was better explained by individual- and household-level variables than location. Thus, although levels of psychological distress were found to be lower among rural residents compared to urban (Dhingra et al., 2009), the type of rural area one lives in did not predict psychological distress above and beyond covariates (Butterworth et al., 2014).

In addition to complexities in comparing levels of psychological distress within and across location, research suggests that those with marginalized identities experience increased psychological distress within rural areas. Specifically, among a sample of rural Tennessee residents (*N* = 1,043; 62% White; 63% female), race, income, and the interaction of the two, predicted depressive symptoms such that Black participants and participants with low SES had higher levels of depression, and the gap between depressive symptoms among Black and White participants widened at lower levels of income (Linn et al., 1990). Similarly, in a study of psychological distress and barriers to mental health care among rural lesbian women in the U.S. (*N* = 716; 61.2% non-rural; 71.1% White), reported levels of psychological distress were higher among rural

participants compared to non-rural participants (Barefoot et al., 2015). Taken together, these results suggest that rural residents with marginalized identities do not seem to benefit from the lower levels of psychological distress compared to urban residents reported by Dhingra and colleagues (2009). Given similar findings regarding barriers to PSOC described above, it is particularly important to understand the relationship between PSOC and psychological distress for rural residents with marginalized identities.

Research on the relationships between community and interpersonal variables and psychological distress among rural populations has produced mixed results (e.g., Handley et al., 2019; Kelly et al., 2011). Although Kelly and colleagues (2011; described above) found that sense of community uniquely predicted psychological distress, Handley and colleagues (2019) did not replicate these results among a sample of rural Australians (N = 2,639) in a longitudinal study focused on rural mental health. Although PSOC did not uniquely predict psychological distress among participants, availability of interpersonal support and high involvement in social activities or groups were significant predictors (Handley et al., 2019).

In addition to studies on psychological distress among rural adults, a mixed methods study conducted by Glendinning and colleagues (2003) focused on the associations between rural community life and well-being among Scottish youth and found that a range of specific perceptions of rural community life predicted depressed mood, although the researchers did not utilize a total score for PSOC. Among 875 Scottish youth aged 15-16 years old (51% female), significant negative predictors of depressed mood in a multiple regression included perceiving one's community as safe for young people, that it is a good place for young people to live, and that there are people

from the community outside of the family to receive support from. Positive predictors of depressed mood included perceiving within one's community high prevalence of gossip, difficulty obtaining privacy, and too little freedom to be who one wants to be. Taken together, results regarding the importance of PSOC specifically in predicting psychological distress are mixed. However, previous research has highlighted a range of community-level variables that are associated with this outcome, including involvement in social groups, interpersonal or social support, perceptions of community control and sanctions, and positive perceptions of the overall quality of one's community (Glendinning et al., 2003; Handley et al., 2019).

Given the limited research and mixed findings on the importance of PSOC in predicting psychological distress among rural residents, a review of research with broader populations is informative. Social cohesion, which includes sense of community and neighboring behavior (e.g., reciprocity and trust) as two of three domains (Buckner, 1988), has been found to be protective of psychological distress against the effects of neighborhood deprivation in a longitudinal study of 4,558 U.K. residents, such that the relationship between neighborhood poverty rates and distress was attenuated for communities with high social cohesion (Fone et al., 2014). Similarly, Hurd and colleagues (2013; described above) found that perceptions of neighborhood cohesion mediated the relationship of various neighborhood characteristics and rates of depressive and anxious symptoms in a sample of Black urban adolescents. Although the current study will measure perceptions of rurality rather than objective neighborhood-level characteristics, these results highlight the potential role of PSOC as a moderator (Fone et

al., 2014) or mediator (Hurd et al., 2013) of the relationship between predictor variables and psychological distress.

Taken together, previous research supports the relationship between various community perceptions and interactions with psychological distress in rural areas (e.g., Handley et al., 2019) and more broadly (e.g., Fone et al., 2014). Given that research with rural participants resulted in inconsistent findings regarding the role of PSOC in predicting psychological distress (Handley et al., 2019; Kelly et al., 2011) or the absence of PSOC as a predictor altogether (e.g., Butterworth et al., 2014; Glendinning et al., 2003), as well as a dearth of research on community-related variables and psychological distress in the U.S., there are several important gaps in the literature. Additionally, no studies were identified that explored the relationship among general psychological distress and place attachment. The current study explored the effect of perceptions of rurality, place attachment, and PSOC on psychological distress, thus working to fill several existing gaps in the literature.

Summary

Previous research supports the use of an ecological systems approach (Bronfenbrenner, 1979) to exploring experiences of place, community, and belonging in rural areas. Aspects of the rural macrosystem, including population density, distance from urban areas, and values such as community appear to impact individuals through their microsystems of social interaction and mesosystems of interaction between social and home or work spheres (e.g., Butterworth et al., 2014; Caxaj & Gill, 2017; Kulig et al., 2018; Smith et al., 2018).

The current study was intended to fill several gaps in the literature. First, to the author's knowledge, no studies to date have utilized perceptions of rurality as measured by Theodori and Willits (2019) as a predictor variable. Given the prevalence of positive and negative stereotypes of rural areas (Glaze et al., 2013; Lichter & Brown, 2011; Theodori & Willits, 2019), perceptions of rurality may be important to explore further. In addition, no quantitative research to date could be identified that analyzed place attachment as a predictor of PSOC or mental health outcomes among a specifically rural population. Similarly, there is an absence of quantitative research on experiences of belonging in rural areas, and studies predicting well-being and psychological distress from place- and community-related variables among rural populations is scarce (e.g., Kutek et al., 2011) or have demonstrated mixed results (Handley et al., 2019; Kelly et al., 2011). The proposed study attempts to fill relevant gaps in quantitative research on the variables of interest among rural populations specifically, as well as a gap in research on rurality and rural populations in counseling psychology more broadly.

Hypotheses

1) (a) Place attachment, PSOC, and well-being will be positively correlated with one another. Specifically, previous research has identified positive relationships between place attachment and PSOC (Long & Perkins, 2007; Pretty et al., 2003; Scannell & Gifford, 2016), place attachment and well-being (Scannell & Gifford, 2017), and PSOC and well-being (Kutek et al., 2011; Stacciarini et al., 2015). (b) Psychological distress will be negatively correlated with place attachment, PSOC, and well-being. Previous research has identified negative relationships between psychological distress and PSOC (Kelly et al., 2011) and psychological distress

and well-being (e.g., Peter et al., 2011). The previous literature is not sufficient to predict the correlations among positive and negative perceptions of rurality with the other variables.

2) (a) Perceptions of rurality will vary by age, gender, race, sexual orientation, population density, and SES. Supporting literature includes quantitative (Theodori & Willits, 2019) and qualitative (e.g., Kennedy, 2010; Watkins & Jacoby, 2007) studies. (b) Place attachment will vary by age, gender, SES, length of residence, rural background, and population density (Anton & Lawrence, 2014; Lewicka, 2010; Stedman, 2006). Exploratory analyses of differences by race and sexual orientation will be conducted. (c) PSOC will vary by age, race, sexual orientation, population density, length of residence, rural background, and SES. Quantitative (Avery et al., 2021; Kulig et al., 2018; Wilkinson, 2008) and qualitative (Plastow, 2010; Smith et al., 2018) studies support this prediction. (d) Belonging will vary by race, gender, sexual orientation, and SES (e.g., Caxaj & Gill, 2017; Terman, 2014). (e) Well-being will vary by population density (Gilbert et al., 2016). Exploratory analyses of differences by gender, race, sexual orientation, age, and SES will be conducted. (f) Psychological distress will vary by race, sexual orientation, SES, and population density (Barefoot et al., 2015; Dhingra et al., 2009; Linn et al., 1990). Exploratory analyses of differences by gender and age will be conducted. Demographic variables that demonstrate a pattern of significant difference across multiple variables will be entered as covariates in statistical models.

3) Conditional mediation is hypothesized, such that place attachment and PSOC are expected to mediate the relationship between perceptions of rurality and outcome variables (well-being and psychological distress, and belonging is expected to moderate the relationship between PSOC and mental health outcomes (see Appendix A, Figure 1). Details of the hypothesized serial mediation are provided in Hypothesis 4. Specifically, higher levels of belonging are expected to be associated with weaker relationships between PSOC and psychological distress (Baskin et al., 2010) and stronger relationships between PSOC and well-being. Although no previous research could be located that examined belonging as a moderator in predicting well-being, one study identified a significant interaction between social support and social exclusion (measured with a subscale of a belonging measure) in predicting psychological well-being with social support positioned as the moderator (Arslan, 2018). The significant interaction provides preliminary support for a hypothesizing belonging as a moderator and well-being as an outcome.

4) (a) Place attachment and PSOC will mediate the relationship between positive perceptions of rurality and outcome variables (well-being and psychological distress; see Appendix A, Figure 2). (b) Place attachment and PSOC will mediate the relationship between negative perceptions of rurality and outcome variables (see Appendix A, Figure 2). Specifically, positive perceptions of rurality is expected to positively predict place attachment, and negative perceptions of rurality is expected to negatively predict place attachment, given the importance of physical and social aspects of place as a dimension of place attachment

(Scannell & Gifford, 2010). Next, place attachment is expected to positively predict PSOC (Long & Perkins, 2007; Scannell & Gifford, 2017). PSOC is expected to positively predict well-being (Kutek et al., 2011; Stewart & Townley, 2020) and negatively predict psychological distress (Kelly et al., 2011).

CHAPTER III

METHOD

This chapter will describe the methodology for the current study. First, the sample will be described, followed by a description of procedures. Next, descriptions, reliability, and validity information will be provided for each measure used in the current study. Finally, statistical analysis used to test each hypothesis will be outlined.

Participants

The final sample included 95 participants. All participants met inclusion criteria of being at least 18 years old, living in the United States, and living in a rural area or small town. Participants were primarily women (84%) with 14% identifying as men, 3% as non-binary, and 1% identified as other. The sample was predominantly White (89%), with 4% identifying as Black, 4 % as Native American, 3% as Latinx or Hispanic, 2% as Native Hawaiian or Pacific Islander, 2% as biracial, and 1% as Asian or Asian American. In terms of sexual orientation, 76% of the sample identified as heterosexual, followed by 11% identifying as bisexual, 7% as asexual, 3% as queer, 2% as gay or lesbian, 1% as pansexual, and 1% as other or questioning. The participants had an average age of 39.4 (*SD* = 15.4; range 18-80). The majority of participants were married (62%) with other participants indicating that they were dating (14%), single (not dating; 7%), in a domestic partnership (5%), divorced (4%), widowed (3%), other (cohabitating; 2%), or separated (1%). The majority of participants were not currently raising children at home (58%).

Participants indicated a diverse range of educational attainment, with 27% reporting obtaining a master's degree, 24% indicating completion of a bachelor's degree, 15% with a high school diploma or GED, 13% with some college, 11% with an associate's degree, 7% with a doctoral degree and 3% with a professional degree. In regards to SES, 42% of participants indicated that their family had some money left over after paying for basics, 28% indicated having more than enough money left over paying for basics, 24% indicated just enough money to pay for basics, and 5% indicated having not enough money to make ends meet. Participants reported that they had lived in their community for an average of 19.1 years (SD = 17.3; 1-80). The average population size of the nearest community was 7,342, with an average population density of 134 people per square mile. The average percentage of the county's population classified as rural was 55.8 (classified as Mostly Rural by Ratcliffe et al., 2016). Additional demographic data can be found in Table 1 (Appendix K).

Procedures

Approval was obtained from the University of Akron's Institutional Review Board (IRB Number 20211115) before beginning data collection. Data were collected using convenience and snowball sampling procedures. Information about the survey was shared on the researcher's personal social media accounts, in relevant social media groups (e.g., Reddit pages r/homestead and r/Appalachia), and at the researcher's internship site. Posts on personal social media pages were shared by "friends" and "friends of friends," facilitating snowball sampling. In addition, rural counties with relatively higher populations of Black and Hispanic residents were identified by cross-referencing population information (Rural Health Information Hub, n.d.-a, -c) with the

U.S. Census Bureau's county classification system (Ratcliffe et al., 2016). Once counties were identified, community colleges and extension offices (i.e., educational services focused on agriculture and families offered in each county and housed in a state land-grant university) were identified and contacted with information about the study and a request to share it as appropriate. Emails were sent to deans of student affairs and/or psychology instructors at 17 community colleges and to staff at over 140 extension offices. Finally, email requests to distribute information about the survey were sent to contacts of the researcher's psychology doctoral internship supervisors in rural Nebraska.

Informed consent and measures were administered online using Qualtrics. Participants were asked to confirm whether they were over 18 years old and lived in the United States, as well as to select the designation of the community size where they currently lived (e.g., rural, town, small city, large city) immediately after providing informed consent (see Appendix J for screening questions). Population size parameters were provided for reference for each community size in the screening question and were based on classification systems including the Degree of Urbanization (European Commission et al., 2020) endorsed by the United Nations (Dijkstra et al., 2020), U.S. Census Bureau (2021), U.S. Department of Agriculture's (USDA) frontier and remote area codes (Cromartie & Nulph, 2019), and the Rural Education Achievement Program locale framework (Geverdt, 2015). If they did not meet required criteria (e.g., indicate living in a rural area or small town), they were redirected to a debriefing form to end the survey. Qualifying participants were directed to the included measures. After completing the measures, the participants were directed to a debriefing form.

No personally identifying information was collected in connection with participants' responses. Participants were given the opportunity to connect to a separate survey following completion of the measures in order to enter a drawing for one of eight $20 gift cards. To enter the drawing, participants were asked to submit relevant contact information; this was not connected to the data they previously provided. All data, including contact information, are stored on a locked computer accessible only to the researcher. Raw data will be destroyed after five years.

Measures

Demographic Questionnaire

Participants were asked to provide information about their age, race, gender, sexual orientation, and socioeconomic status. In addition, they were asked about their relationship status and whether they have children under 18. They were asked about information relevant to their rurality, including either their county and state of residence and their zip code (which was clearly marked as optional), whether they live in an unincorporated area, the population of their community or the nearest community, length of residence in current community, whether they lived in a rural community as a child, and the length of time living in a rural area across their life. For participants who provided their zip code (n = 92), population density was calculated. For participants who provided their county (n = 89), classifications from Ratcliffe et al. (2016) were used to identify the percentage of the county's population classified as rural. Thirty-nine percent of published research manuscripts exploring rurality have utilized a measure of population to indicate rurality (Nelson et al., 2021). Subjective questions about rurality, such as questions about rural background and history (i.e., whether one lived in a rural

community as a child, total time living in a rural area across their lifetime), were utilized by Barefoot and colleagues (2015).

Perceptions of Rurality

Perceptions of rurality were measured using the Positive Images of Rurality and Negative Images of Rurality subscales of a 23-item measure of the rural mystique developed by Theodori and Willits (2019). The scale has an additional subscale measuring antiurban images that was not used in the current study. Five-point Likert scale questions (1 = *strongly disagree*; 5 = *strongly agree*) were used and were drawn from previous similar measures developed by the second author. Each subscale is scored individually by computing an average of all items in the subscale. Scores for the negative images of rurality subscale are reverse coded such that a higher score on either subscale indicates more "prorural" perceptions (p. 173). The positive and negative images of rurality subscales consist of nine and seven items, respectively. A sample positive question is "Rural life brings out the best in people," and a sample negative question is "Rural life is monotonous and boring" (p. 175).

Because additional studies utilizing this measure were unable to be located, psychometric information comes from Theodori and Willits (2019). Both positive and negative images of rurality subscales yielded good internal consistency (αs = .84 and .80, respectively). Both subscales demonstrated good internal consistency in the current study as well (α = .83 and .84, respectively). In addition, all three subscales included in the original measure were found to constitute unique factors in principal components analysis. Evidence of convergent and predictive validity was not available. Theodori and Willits found that age, identifying as a man, identifying as Republican, and population

size were positively correlated with Positive Images of Rurality scores; level of education, household income, and identifying as a Republican were positively correlated with Negative Images of Rurality scores, which were reverse coded such that higher scores indicated greater support for rurality.

Psychological Sense of Community

Psychological sense of community was measured in the current study using the Brief Sense of Community Scale (BSCS; Peterson et al., 2008). The BSCS is an 8-item measure that uses a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*) and positively worded items to measure respondents' sense of community in relation to their neighborhood. The scale was designed primarily by McMillan, who along with Chavis developed the primary theoretical model of PSOC (McMillan & Chavis, 1986). The BSCS has two questions to measure each of the four dimensions of PSOC, including needs fulfillment (e.g., "This neighborhood helps me fulfill my needs"), group membership (e.g., "I belong in this neighborhood"), influence (e.g., "People in this neighborhood are good at influencing each other"), and emotional connection ("I feel connected to this neighborhood," p. 71); both subscale and total scores can be utilized. Total scores were used for descriptive statistics PROCESS (Hayes, 2018) analyses. Previous studies utilizing this measure have used summed scores (Lardier, Cheryomukhin, et al., 2018; Wang et al., 2015) as well as mean scores (Moscato et al., 2014; Wombacher et al., 2010). An average score was used in the current study.

A range of studies have provided support for the psychometric properties of the BSCS. The scale has demonstrated good to excellent internal consistency for the total score in samples of U.S. urban youth of color ($\alpha = .85$; Lardier, Cheryomukhin, et al.,

2018), U.S. Midwestern adults (α = .92; Peterson et al., 2008), U.S. military spouses (α = .93; Wang et al., 2015), and Chinese older adults (α = .83; Zhang et al., 2018). The total score demonstrated good internal consistency in the current study (α = .88). In addition, the BSCS subscales generally demonstrate adequate to good internal consistency: needs fulfillment (α's = .7, .85, .86), group membership (α's = .8, .91, .94), influence (α's = .68, .71, .77), and emotional connection (α's = .7, .87; Lardier, Cheryomukhin, et al., 2018; Peterson et al., 2008; Rosen et al., 2011). Several studies, both in rural (Wolfe et al., 2020) and non-rural (Van Winkle et al., 2013) areas, have utilized subscale scores in statistical analyses. Further, several studies have validated the first- and second-order factor structures of the BSCS, such that the scale represents four dimensions of PSOC underlying the single PSOC construct (Lardier, Cheryomukhin, et al., 2018; Peterson et al., 2008; Wombacher et al., 2010). Total scores on the BSCS were negatively correlated with experiences of discrimination of immigrants in Europe as well as of intercultural couples (Moscato et al., 2014) and mediated the effect of social support on psychological well-being (Wang et al., 2015). Both subscale and total scores were found to correlate with mental health and depressive symptoms (Peterson et al., 2008). Limited research utilizing the BSCS in rural populations has found that total scores predict intentions to move away from one's local community (Wolfe et al., 2020).

Place Attachment

Place attachment was measured using the Place Attachment Scale developed by Lewicka (2005, 2011a). The scale consists of nine items (seven positively worded and two negatively worded) and uses a 5-point Likert scale (1 = *strongly disagree;* 5 = *strongly agree*). Lewicka (2005, 2011a) utilized the measure to ask about several types of

places, including neighborhood, city/town, and country. The current study asked participants to think about their city/town/rural area when answering the questions. Results of factor analyses indicated the scale is unidimensional and a total score is provided (Lewicka, 2005, 2011a). Specifically, a total score is calculated by taking the mean of all items. Questions demonstrate face validity for several dimensions of place attachment identified by Scannell and Gifford (2010), including cognitive ("This place is part of me," Lewicka, 2011a, p. 682), affective ("I am proud of this place," p. 682), and behavioral processes ("I would like to move out of this place," p. 682). Among the unidimensional measures of place attachment identified by Hernandez and colleagues (2020), this measure appears to conceptualize place attachment most broadly.

No previous research could be identified that used the Place Attachment Scale with a U.S. sample. Lewicka (2005, 2011a) administered the measure to samples of Polish adults, and the measure's scores demonstrated good internal consistency (αs = .83 and .84). The measure had good internal consistency in the current study as well (α = .89). Place attachment at the neighborhood level also correlated positively with length of residence, neighborhood ties, and interests in one's roots, as well as correlated negatively with cultural capital (i.e., family education levels and books at home; Lewicka, 2005).

Belonging

The current study used the General Belongingness Scale (GBS; Malone et al., 2012) to measure belonging. The GBS was designed to measure achieved belongingness across contexts and types of relationships (Malone et al., 2012). The scale consists of 12 items using a 7-point Likert scale (1 = *strongly disagree,* 7 = *strongly agree*). Six items are included in the Acceptance/Inclusion subscale (e.g., "I feel accepted by others,"

Malone et al., 2012, p. 314), and six items compose the Rejection/Exclusion subscale (e.g., "I feel as if people do not care about me," p. 314); items in the Rejection/Exclusion subscale are reverse scored. Results of factor analyses indicated a two-factor solution with a strong inter-factor correlation, and the authors concluded that a total score can be used for this reason. A total score was used for the proposed study. Malone and colleagues (2012) do not specify whether item scores are summed or averaged to calculate a total score; mean scores were used in the current study.

Evidence supporting the psychometric properties of the scale is provided by previous research. Studies across a range of samples have demonstrated adequate to excellent internal consistency of scores, including among a sample of racially and ethnically diverse U.S. college students (α = .92-.95; Malone et al., 2012), Latinx immigrants in the U.S. (α = .79, .87; Shelton et al., 2020), a community sample of U.S. adults (α = .95; Zelenski & Nisbet, 2014), and Turkish high school students (α = .81; Arslan, 2018). Internal consistency was excellent in the current study (α = .93). Convergent validity was demonstrated through strong positive correlations with existing measures of belongingness and loneliness (Malone et al., 2012). Moderate negative correlations among GBS scores and various measures of insecure attachment style provided evidence of discriminant validity (Malone et al., 2012). Finally, predictive validity was established through significant correlations between GBS scores and several well-being and distress measures (Arslan, 2018a; Malone et al., 2012).

Well-Being

The Flourishing Scale (Diener et al., 2010) was used to measure eudaimonic well-being in the current study (Cooke et al., 2016). The Flourishing Scale is an 8-item

measure that uses a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*) and positively worded questions to assess "important aspects of human functioning" including relationships, competence, self-respect, optimism, and purpose and meaning in life (Diener et al., 2010, p. 148). The authors developed the Flourishing Scale as a brief measure of social-psychological prosperity. A total score is calculated by summing participants' responses on each item, with scores ranging from eight to 56. Higher scores indicate a more positive self-assessment of one's functioning. Sample items include "I am engaged and interested in my daily activities" and "I actively contribute to the happiness and well-being of others" (p. 154).

Previous research has provided support for the psychometric properties of the scale. First, studies across a range of samples have indicated good to excellent internal consistency in samples of U.S. college students and New Zealand adults (αs = .87, .89, and .91; Diener et al., 2010; Hone et al., 2014; Howell & Buro, 2015). Internal consistency was excellent in the current study (α = .91). In addition, test-retest reliability has been adequate in samples of U.S. college students (.71; Diener et al., 2010) and Japanese college students (.87; Sumi, 2014) when participants completed the measure one month later. Second, several studies have confirmed a unidimensional factor structure of the Flourishing Scale (Diener et al., 2010; Hone et al., 2014; Perera et al., 2018). Third, the scale's scores have demonstrated adequate evidence of convergent validity by correlating as expected with other measures of well-being, including life satisfaction, happiness, and optimism (*r*s > .60; Hone et al., 2014; Perera et al., 2018). In addition, strong correlations were demonstrated between the Flourishing Scale and subscales of existing measures of psychological well-being (i.e., Ryff Scales of

Psychological Well-Being, Basic Needs Satisfaction; Diener et al., 2010). Fourth, the scale's scores have demonstrated evidence of discriminant validity by a strong negative correlation with a measure of depressive symptoms (Hone et al., 2014). No previous research utilizing the Flourishing Scale with a specifically rural sample could be located.

Psychological Distress

The current study utilized the Kessler Psychological Distress Scale (K10; Kessler et al., 2002) as a measure of psychological distress. The K10 was originally developed as a brief measure of non-specific psychological distress for use in the U.S. National Health Interview Survey in order to help identify community members with severe mental illness. The scale consists of ten items answered on a 5-point Likert scale (1 = *none of the time*; 5 = *all of the time*) that measures the degree to which one has experienced a range of non-specific psychological symptoms, including nervousness, hopelessness, restlessness, and sadness, in the past 30 days. An example item states, "During the last 30 days, how often did you feel that everything was an effort?" Scores are calculated by summing responses to each item, with higher scores indicating higher levels of psychological distress and scores of ten indicating no distress (Andrews & Slade, 2001).

Psychometric properties of the measure have been established across a range of studies. The K10 has demonstrated good to excellent internal consistency across samples of adults in the U.S. and First Nations adults in Canada (αs = .88 and .93; Kessler et al., 2002; Kessler et al., 2003; Bougie et al., 2016). In the current study, internal consistency was excellent (α = .92). In addition, the scale's scores have demonstrated adequate evidence of convergent validity through strong correlations with scores on anxiety and depression subscales of a personality measure (i.e., IPIP-NEO-120; Lace et al., 2019).

Similarly, scores were significantly different for those who had never, previously, and were currently utilizing psychological services; those who were and were not diagnosed with an anxiety or depressive disorder; and those who had and had not considered suicide in the past year (Bougie et al., 2016; Lace et al., 2019). K10 scores predicted DSM-IV anxiety and mood disorders (Furukawa et al., 2003) and serious mental illness (Kessler et al., 2003) as well as or better than lengthier measures of psychological distress (e.g., General Health Questionnaire 12-item). There are mixed results regarding the factor structure of the K10 in community samples, with some studies identifying a unidimensional factor structure (Bougie et al., 2016; Kessler et al., 2002; Sunderland et al., 2012) and others identifying a four first-order factors (Nervous, Negative Affect, Fatigue, Agitation) and two second-order factors (Depression, Anxiety; Brooks et al., 2006) or a two-factor structure (Depression, Anxiety; Lace et al., 2019). The current study will utilize a total score for the K10.

Research utilizing the K10 in rural samples has similarly demonstrated good internal consistency in a rural sample in Australia ($\alpha = .87$; Kilkinnen et al., 2007) and has been utilized in additional studies of rural populations (Butterworth et al., 2014; Handley, 2011). K10 scores were found to predict later suicidal ideation (Handley, 2011) and to be predicted by various measures of relationship quality and household variables (Butterworth et al., 2014). In addition, K10 scores decreased from pre-treatment to post-treatment in a program intended to increase access to mental health treatment across Australia (Morley et al., 2007).

Statistical Analyses

After data were collected, data screening and cleaning for assumptions of normality, outliers, and missing data was completed using SPSS.

Hypothesis 1: Place attachment, PSOC, belonging, and well-being will be positively correlated with one another. Psychological distress will be negatively correlated with place attachment, PSOC, belonging, and well-being. The previous literature is not sufficient to predict the correlations among positive and negative perceptions of rurality with the other variables.

Proposed analysis: Pearson's *r* bivariate correlations among positive perceptions of rurality, negative perceptions of rurality, place attachment, PSOC, well-being, and psychological distress were computed using SPSS.

Hypothesis 2: (a) Perceptions of rurality will vary by age, gender, race, sexual orientation, population density, and SES. (b) Place attachment will vary by age, gender, SES, length of residence, rural background, and population density. Exploratory analyses of differences by race and sexual orientation will be conducted. (c) PSOC will vary by age, race, sexual orientation, population density, length of residence, rural background, and SES. I Belonging will vary by race, sexual orientation, SES, and length of residence. Exploratory analyses of differences by population density and age will be conducted. Well-being will vary by population density. Exploratory analyses of differences by gender, race, sexual orientation, age, and SES will be conducted. (f) Psychological distress will vary by race, sexual orientation, and population density. Exploratory analyses of differences by gender, age, and SES will be conducted.

Proposed analysis: For continuous variables, including age, population density, and length of residence, bivariate correlations were conducted with each measured predictor and outcome variable. For categorical variables, including gender, race, sexual orientation, SES, relationship status, parenting, and rural background, MANOVAs were conducted. For those with a significant Levene's test, indicating significant mean differences across groups, a Tukey test was used to further explore the differences. Demographic variables that demonstrated a pattern of significant differences across variables were included as covariates in the model described in Hypotheses 3 and 4, as well as in post-hoc analyses.

Hypothesis 3: Place attachment and PSOC are expected to mediate the relationship between perceptions of rurality and outcome variables (well-being and psychological distress), and belonging is expected to moderate the relationship between PSOC and outcome variables (see Appendix A, Figure 1). Specifically, higher levels of belonging are expected to be associated with weaker relationships between PSOC and psychological distress and stronger relationships between PSOC and well-being. If the moderated mediation is significant, the conditional indirect effect will be probed using the pick-a-point approach as suggested by Hayes (2018). Specifically, belonging scores at the 16^{th}, 50^{th}, and 84^{th} percentiles of the distribution will be used to probe the interaction.

Proposed Analysis: A conditional mediation analysis was conducted using the PROCESS macro for SPSS (Hayes, 2018). PROCESS uses ordinary least squares regression to generate model coefficients and direct, indirect, and conditional effects. Model 87 was used to determine whether the indirect effect of perceptions of rurality on mental health outcomes through place attachment and PSOC was moderated by

belonging. Percentile bootstrapping was used to estimate indirect effects, and 95% bootstrapped confidence intervals that do not include zero are determined to be significant (Hayes, 2018). Ten thousand bootstrapped samples were used for each PROCESS analysis in the proposed study. The model was analyzed four times, once with well-being as an outcome and once with psychological distress as an outcome for both positive and negative perceptions of rurality as predictors. The same seed for bootstrapping was used for all analyses to allow for accurately estimating the paths as the model had multiple outcome variables (Hayes, 2018).

Hypothesis 4: (a) Place attachment and PSOC will mediate the relationship between positive perceptions of rurality and outcome variables (well-being and psychological distress). The serial mediation effect is expected to be positive when predicting well-being and negative when predicting psychological distress. (b) Place attachment and PSOC will mediate the relationship between negative perceptions of rurality and outcome variables (see Appendix A, Figure 2). The serial mediation effect is expected to be negative when predicting well-being and positive when predicting psychological distress.

Proposed analysis: A serial mediation analysis was conducted using the PROCESS macro for SPSS (Hayes, 2018). Model 6 was used to determine whether the serial indirect effect of perceptions of rurality through place attachment and PSOC on outcome variables was significant, as well as whether place attachment and PSOC were significant mediators individually. As in Hypothesis 3, percentile bootstrapping with 10,000 bootstrapped samples was used. Again, the model was analyzed four times, once

with well-being as an outcome and once with psychological distress as an outcome for both positive and negative perceptions of rurality as predictors.

CHAPTER IV

RESULTS

This chapter will describe the results of the current study. First, data collection, screening and cleaning, and demographics will be discussed. Next, descriptive statistics will be discussed. Finally, results of analyses used to test each hypothesis and post-hoc analyses will be provided.

Data Screening

Data were collected from March 2022-September 2023. Unfortunately, likely due to the use of social media in snowball sampling, the survey was inundated by fraudulent data from bots. All available embedded estimators for fraudulent data provided by Qualtrics were utilized. A variety of indicators were utilized to screen out illegitimate data from the original dataset of 1,197. First, 330 respondents who did not complete any questions were removed. Then, 249 responses with obviously urban (e.g., county containing a large city [e.g., Los Angeles County, CA; Cook County, IL], population size listed as over 30,000), missing, or incongruous location data were removed. 28 duplicated responses were removed, as well as 16 with significant missing data. A total of 479 additional responses were suspected of being fraudulent and were removed. Embedded Qualtrics estimations for fraudulent data were compared to provided cut-offs and were used in combination with qualitative responses included in the survey to identify fraudulent data. The author was conservative in identifying legitimate responses,

prioritizing integrity of the dataset, and as such, it is possible that some legitimate responses may have been removed.

Data were screened for missing data patterns, normality, outliers, and multicollinearity. Little's MCAR test was not significant ($\chi^2 = 6.33$, $p = .275$), suggesting data were missing completely at random. Utilizing skewness and kurtosis statistics (i.e., statistic divided by standard error) with 3.29 as a cut-off score, belonging showed evidence of potential skewness (skewness statistic / standard error = -3.316); there was no evidence that any other variables were not normally distributed. Utilizing a square root transformation did not appear to improve skewness when visually comparing histograms for the transformed and non-transformed variable, so belonging was not transformed for the remaining analyses. Examining standardized values for each variable, no univariate outliers were identified using a cutoff score of 3.29. Further, examining the Mahalanobis distance statistic using a significance of $p < .001$ as well as Cook's distance statistic using a cut-off of 1.00 did not reveal any multivariate outliers. Regarding bivariate multicollinearity, no pairs of variables had correlation coefficients greater than 0.80, suggesting no concerns (Young, 2017). Similarly, no concerns were identified for multivariate multicollinearity. At the conclusion of this data screening and cleaning, the final sample consisted of 95 participants, which, although lower than the proposed sample of 200, is close in size to similar studies that have utilized a conditional mediation model with two serial mediators and a moderator on one path with a sample size of 115 (Choudhary et al., 2020).

Preliminary Analysis

A brief comparison of means of study variables to previous literature, where available, is provided in order to further contextualize results of the current study. Means, standard deviations, and Cronbach's alpha for each variable can be found in Table 2. No previous studies utilizing the Positive Images of Rurality and Negative Images of Rurality scales (Theodori & Willits, 2019) could be identified, so comparisons are limited to data collected by Theodori and Willits. Participants reported an average score of 3.35 (*SD* = 0.69) for positive perceptions of rurality and 3.39 (*SD* = 0.75) for negative perceptions. These scores are slightly above the mid-point (*undecided*) on the 5-point Likert scale. This suggests that participants hold relatively neutral, on average, perceptions of rurality. Theodori and Willits did not report mean scores for the subscales, although response frequencies by item are reported (see Table 3). Theodori and Willits (2019) collected data from 520 residents of rural areas and small towns (< 10,000 people) in Texas in 2012.

The average level of both PSOC and place attachment are in the moderate range and similar to previously reported levels. The mean PSOC score in the current sample was 3.42 (*SD* = 0.76), slightly above the midpoint of the scale with a possible range of 1-5. In a sample of 293 Midwestern adults (98.7% white), Peterson and colleagues (2008) reported a mean of 3.81 (*SD* = 0.79) utilizing the Brief Sense of Community Scale. A two-tailed one-sample t-test indicated a significant difference between the current sample and Peterson et al. ($t = -4.99$, $p < .001$). The mean place attachment score in the current sample was 3.55 (*SD* = 0.74), also slightly above the midpoint of the scale with possible scores ranging from 1-5. No previous studies utilizing the Lewicka (2005) place

attachment measure with a U.S. sample could be identified. However, Lewicka (2005) reported scores across three geographical regions of Poland ranging from 3.53 (*SD* = 0.89, *n* = 601) to 3.84 (*SD* = 0.83, *n* = 357). A two-tailed one-sample t-test indicated a significant difference between the current sample and the highest reported mean of the Lewicka (2005) subsamples ($t = -3.83$, $p < .001$). There was not a significant difference between the current sample and the lowest of the Lewicka (2005) subsamples ($t = 0.28$, $p = .78$).

TABLE 2
CORRELATIONS OF ALL STUDY VARIABLES

Variable	1	2	3	4	5	6	7
1	--						
2	.46***	--					
3	.57***	.47***	--				
4	.67***	.59***	.71***	--			
5	.39***	.42***	.66***	.53***	--		
6	.35**	.43***	.52***	.52***	.76***	--	
7	-.15	-.45***	-.23*	-.28**	-.50***	-.44***	--
Mean (*SD*) / Cronbach's α	3.35 (.69) .83	3.39 (.75) .84	3.42 (.76) .88	3.55 (.74) .89	5.20 (1.18) .93	46.87 (7.05) .91	20.06 (7.32) .92

Note: 1 = Positive perceptions of rurality; 2 = Negative perceptions of rurality; 3 = Psychological sense of community; 4 = Place attachment; 5 = Belonging; 6 = Well-being (Flourishing Scale); 7 = Psychological distress

*=significant at <.05; **=significant at <.01; ***=significant at <.001

TABLE 3
RESPONSE FREQUENCIES FOR PERCEPTIONS OF RURALITY ITEMS

Item	Current Study	Theodori & Willits (2019)
Positive Perceptions	Agree[a] (%)	
Rural areas have more peace and quiet than do other areas.	88%	89%
Neighborliness and friendliness are more characteristic of rural communities than other areas.	71%	73%
Rural families are more close-knit and enduring than are other families.	56%	73%
There is less crime and violence in rural areas than in other areas.	56%	61%
Because rural life is closer to nature, it is more wholesome.	52%	69%
Rural communities are the most satisfying of all places to live, work, and play.	47%	70%
Life in rural communities is less stressful than life elsewhere.	43%	71%
Rural life brings out the best in people.	38%	78%
Rural people are more likely than other people to accept you as you are.	21%	49%
Negative Perceptions	Disagree[b] (%)	
Rural life is monotonous and boring.	79%	79%
Rural people are crude and uncultured in their talk, actions, and dress.	72%	87%
Living in rural areas means doing without the good things in modern society.	71%	72%
Rural communities provide few opportunities for the individual to get ahead in life.	53%	51%
Rural communities provide few opportunities for new experiences.	43%	45%
Rural people are closed-minded in their thinking.	42%	48%
Rural people are suspicious and prejudiced toward anyone not like themselves.	38%	59%

[a] In keeping with Theodori and Willits (2019), "strongly agree" and "agree" responses were combined to calculate the frequency reported in the table.

[b] "Strongly disagree" and "disagree" responses were combined.

The mean score for flourishing, taken as an indicator of eudaimonic well-being, was 46.87 (*SD* = 7.05, range = 27-56). Possible scores on the Flourishing Scale (Diener et al., 2010) range from 8-56. The average score in the current study is in the upper quartile of the scale's range. Diener and colleagues reported an average score of 44.97 (*SD* = 6.56) for a sample of 689 college students across five U.S. universities and one university in Singapore. A two-tailed one-sample t-test indicated a significant difference between the current sample and Diener and colleagues' ($t = 2.65$, $p = .009$).

In contrast, participants in the current study appear to have significantly higher levels of psychological distress compared to a representative U.S. sample (Breslau et al., 2021) as well as rural Australians (Butterworth et al., 2014). Slade and colleagues (2011) recommend the following scoring criteria for the K10 (Kessler et al., 2002): low, 10-15; moderate, 16-21; high, 22-29; very high, 30-50. The mean score for the current sample was 20.06 (*SD* = 7.32), with scores ranging from 10 to 40. On average, rural residents in the current study reported experiencing moderate levels of psychological distress. In order to best compare levels of distress among the current sample to previous studies, frequencies for each level were calculated. In the current sample, 33.7% of participants reported low scores, 29.5% reported moderate scores, 26.3% reported high scores, and 10.5% reported very high scores. Breslau and colleagues (2021) provided frequencies in various score levels using the K6, a measure created alongside the K10 (Kessler et al., 2002) with six questions instead of ten. Examining a nationally representative sample (*n* = 1870) of data collected during May 2020, Breslau et al. (2021) reported 74.5% had low distress, 15.5% had mild/moderate distress, and 10.1% had serious distress. Similarly, using data collected from rural Australians (*n* = 2609) from 2007-2009, Butterworth and

colleagues (2014) report 68.8% of participants reported low K10 scores (utilizing the same scoring system described above) and 31.2% reported scores in the moderate range or above (compared to 66.3% in the current study).

Hypothesis Testing

Hypothesis 1

It was hypothesized that place attachment, PSOC, belonging, and well-being would be positively correlated with one another, and psychological distress would be negatively correlated with place attachment, PSOC, belonging, and well-being. Pearson's *r* bivariate correlations were calculated for all predictor and outcome variables; results can be found in Table 2. Analysis supported significant positive correlations with well-being for place attachment ($r = .52$, $p < .001$), PSOC ($r = .52$, $p < .001$), and belonging ($r = .76$, $p < .001$). PSOC was positively correlated with both place attachment ($r = .71$, $p < .001$) and belonging ($r = .66$, $p < .001$). In addition, psychological distress was negatively correlated with place attachment ($r = -.28$, $p = .006$), PSOC ($r = -.23$, $p = .027$), belonging ($r = -.50$, $p < .001$), and well-being ($r = -.44$, $p < .001$). Hypothesis 1 was supported.

Exploratory correlations were conducted for positive and negative perceptions of rurality with other study variables. As noted above, the negative perceptions scale is reverse coded such that high scores on both positive and negative perceptions indicate pro-rural views (Theodori & Willits, 2019). Positive and negative perceptions were positively correlated with one another with a moderate-large effect size (small effect size: .1, moderate: .3, large: .5; Cohen, 1988; $r = .46$, $p < .001$). Both positive and negative perceptions were correlated with PSOC ($r = .57$, $p < .001$; $r = .47$, $p < .001$, respectively)

and place attachment (r = .67, p < .001 ; r = .59, p < .001, respectively) with moderate to large effect sizes. Both positive and negative perceptions were also correlated with belonging (r = .39, p < .001 ; r = .42, p < .001, respectively) and well-being (r = .35, p < .001; r = .43, p < .001, respectively) with moderate effect sizes. Only negative perceptions of rurality was correlated with distress (r = -.45, p < .001).

Hypothesis 2

It was hypothesized that predictor and outcome variables would vary by demographic variables including age, gender, race, sexual orientation, SES, relationship status, parenting, population density, length of residence, and rural childhood. MANOVA was used for categorical variables and bivariate correlations for continuous variables.

MANOVA

There were too few participants across groups to utilize MANOVA testing for race, gender, relationship status, or rural childhood background. However, MANOVAS were conducted for SES, sexual orientation, and parenting. In regards to SES, there was a significant difference between groups, F (21, 244.6) = 1.82, p = .013, Wilk's Λ = 0.650, η^2 = 0.18. Results revealed significant mean differences in belonging across SES (F = 5.124, p =.003), with those who had just enough money to pay for essentials at the end of the month reporting significantly lower belonging (M = 4.48, SD = 0.23) than those who had some money left over after paying for essentials (M = 5.37, SD = 0.18) and those who had more than enough left over (M = 5.63, SD = 0.21). Results also revealed significant mean differences in psychological distress across SES (F = 7.081, p < .001) with those who have more than enough money left over at the end of the month reporting significantly lower levels of psychological distress (M = 15.70, SD = 1.29) than all other

SES groups (some money left over [*M* = 20.25, *SD* = 1.06], just enough [*M* = 23.78, *SD* = 1.40], not enough for basics [*M* = 25.00, *SD* = 3.00]). Between-group mean differences for negative perceptions approached significance (F = 2.594, p = .057). Because of the significant difference among levels of SES based on the MANOVA, SES was included as a covariate in subsequent analyses.

A second MANOVA was run for sexual orientation. Because there were too few participants within each of the sexual minority identities to use each as a separate group, participants were dichotomously coded as heterosexual (*n* = 71) or sexual minority (*n* = 24). There was a significant difference between groups, *F* (7, 87) = 2.73, *p* = ’013, Wilk’s $\Lambda = 0.820$, $\eta^2 = 0.13$. Results revealed significant mean differences across sexual orientation for positive perceptions of rurality (*F* = 7.10, *p* = .009), negative perceptions of rurality (*F* = 4.42, *p* = .038), PSOC (*F* = 11.71, *p* < .001), place attachment (*F* = 8.12, *p* = .005), belonging (*F* = 16.34, *p* < .001), and well-being (*F* = 14.61, *p* < .001). Mean differences across sexual orientation for psychological distress approached significance (*F* = 3.92, *p* = .051). Specifically, sexual minority participants saw rurality as less positive (mean of positive perceptions = 3.03 vs. 3.46; mean of negative perceptions = 3.12 vs. 3.48) and had lower Levels of PSOC (*M* = 2.98 vs. 3.57), place attachment (*M* = 3.19 vs. 3.67), belonging (*M* = 4.46 vs. 5.50), and well-being (*M* = 42.46 vs. 48.37) compared to heterosexual participants. Because of the significant difference among levels of SES based on the MANOVA, SES was included as a covariate in subsequent analyses.

Finally, a MANOVA was used to compare those currently parenting children 18 years old or younger (*n* = 40) and those who are not (*n* = 55). There was not a significant difference between groups, *F* (7, 87) = 1.14, *p* = ’318, Wilk’s $\Lambda = 0.916$, $\eta^2 = 0.08$.

Bivariate Correlations

Bivariate correlations were used to examine differences across all variables by continuously measured demographic variables. Estimated population size of the nearest community and the percentage of the county's population classified as rural were not significantly correlated with any study variables. Population density was significantly positively correlated with both PSOC (r = .24, p < .05) and psychological distress (r = .25, p < .05). Length of time lived in one's current community was significantly positively correlated with positive perceptions of rurality (r = .26, p < .05), negative perceptions of rurality (r = .27, p < .01), and place attachment (r = .21, p < .05). Age was significantly correlated with place attachment (r = .31, p < .01) and with pro-rural views as measured by both endorsement of positive perceptions of rurality (r = .33, p < .01) and disagreement with negative perceptions of rurality (r = .35, p < .001). Age was also significantly negatively correlated with psychological distress (r = -.30, p = .003). Because age was correlated with more than half of study variables, it was included as a covariate in subsequent analyses.

Hypothesis 3

Place attachment and PSOC were expected to mediate the relationship between perceptions of rurality (positive and negative) and mental health outcomes (well-being and psychological distress), with belonging expected to moderate the relationship between PSOC and outcome variables. Hayes' (2018) PROCESS macro was used to test this hypothesis, using Model 87 and 10,000 bootstrapped samples. The model was run four times to test all possible combinations of negative perceptions of rurality and positive perceptions of rurality as predictors and psychological distress and well-being as

outcomes (see Figures 2.1-2.4). The conditional mediation effect was not supported for any of these models, as the confidence intervals for the index of moderated mediation all included zero (see below).

In the model including positive perceptions of rurality as a predictor and well-being as an outcome (Figure 2.1), the direct effect between positive perceptions and well-being controlling for all other variables in the model was not significant (b = -0.31, p = .76, 95% CI [-2.29, 1.67]). Positive perceptions of rurality significantly predicted place attachment (b = 0.68, p < .001, 95% CI [0.50, 0.86]), and place attachment significantly predicted PSOC (b = 0.61, p < .001, 95% CI [0.40, 0.81]). Neither PSOC (b = -4.99, p = .12, 95% CI [-11.31, 1.32]) nor the interaction between PSOC and belonging (b = 0.71, p = .19, 95% CI [-0.37, 1.80]) significantly predicted well-being. The index of moderated mediation for the serial indirect effect was not significant, 95% CI [-0.16, 0.91].

In the model including positive perceptions of rurality as a predictor and psychological distress as an outcome (Figure 2.2), the direct effect between positive perceptions and distress controlling for all other variables in the model was not significant (b = 0.47, p = .71, 95% CI [-2.07, 3.01]). Positive perceptions of rurality significantly predicted place attachment (b = 0.68, p < .001, 95% CI [0.50, 0.86]), and place attachment significantly predicted PSOC (b = 0.61, p < .001, 95% CI [0.40, 0.81]). Neither PSOC (b = 5.87, p = .15, 95% CI [-2.24, 13.98]) nor the interaction between PSOC and belonging (b = -0.75, p = .29, 95% CI [-2.13, 0.64]) significantly predicted well-being. Similarly, the index of moderated mediation for the serial indirect effect was not significant, 95% CI [-0.99, 0.46].

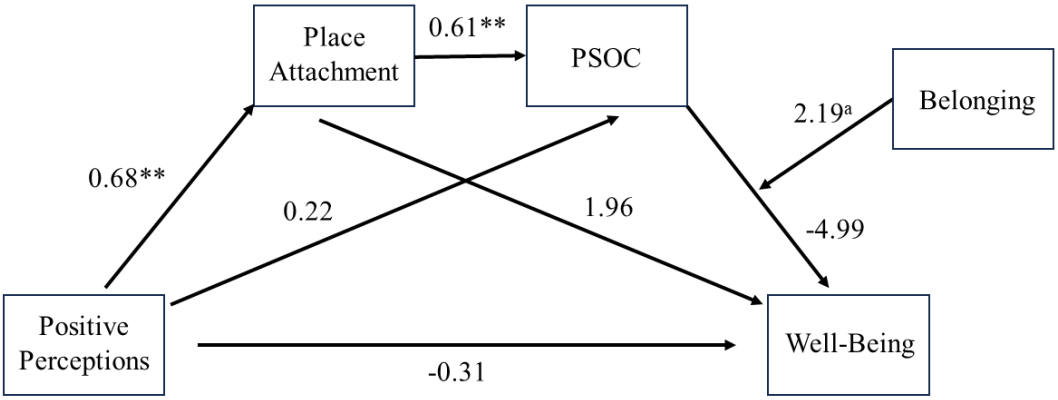

FIGURE 2.1
CONDITIONAL MEDIATION MODEL 1

Note. Unstandardized regression coefficients for each path in the model are provided.

[a] Interaction term for belonging and PSOC

** $p < .001$

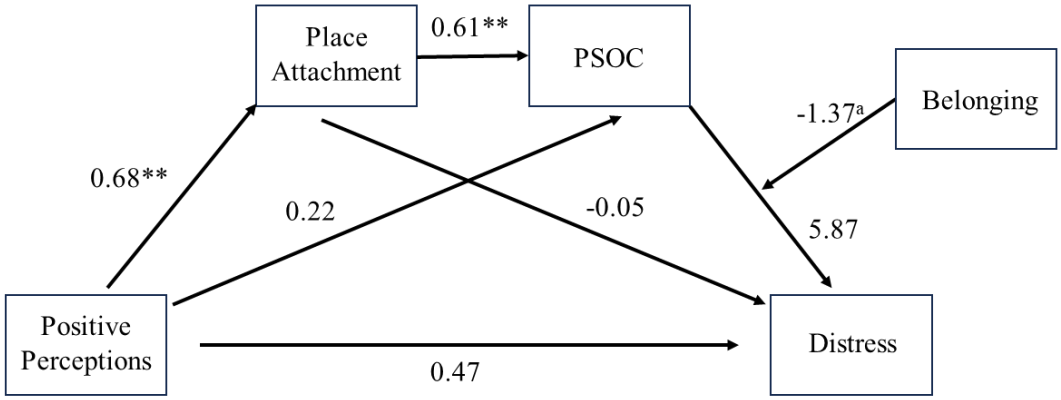

FIGURE 2.2
CONDITIONAL MEDIATION MODEL 2

Note. Unstandardized regression coefficients for each path in the model are provided.

[a] Interaction term for belonging and PSOC

** $p < .001$

In the model including negative perceptions of rurality as a predictor and well-being as an outcome (Figure 2.3), the direct effect between negative perceptions and well-being controlling for all other variables in the model was not significant (b = 0.80, p = .33, 95% CI [-0.83, 2.44]). Negative perceptions of rurality significantly predicted place attachment (b = 0.51, p < .001, 95% CI [0.33, 0.69]), and place attachment significantly predicted PSOC (b = 0.68, p < .001, 95% CI [0.49, 0.87]). Neither PSOC (b = -4.92, p = .12, 95% CI [-11.19, 1.36]) nor the interaction between PSOC and belonging (b = 0.68, p = .22, 95% CI [-0.41, 1.76]) significantly predicted well-being. Similarly, the index of moderated mediation for the serial indirect effect was not significant, 95% CI [-0.15, 0.82].

In the model including negative perceptions of rurality as a predictor and psychological distress as an outcome (Figure 2.4), the direct effect between negative perceptions and distress controlling for all other variables in the model was significant (b = -2.66, p = .011, 95% CI [-4.69, -0.63]). Negative perceptions of rurality significantly predicted place attachment (b = 0.51, p < .001, 95% CI [0.33, 0.69]), and place attachment significantly predicted PSOC (b = 0.68, p < .001, 95% CI [0.49, 0.87]). Neither PSOC (b = 5.45, p = .17, 95% CI [-2.31, 13.28]) nor the interaction between PSOC and belonging (b = -0.62, p = .36, 95% CI [-1.97, 0.72]) significantly predicted well-being. Similarly, the index of moderated mediation for the serial indirect effect was not significant, 95% CI [-0.75, 0.41].

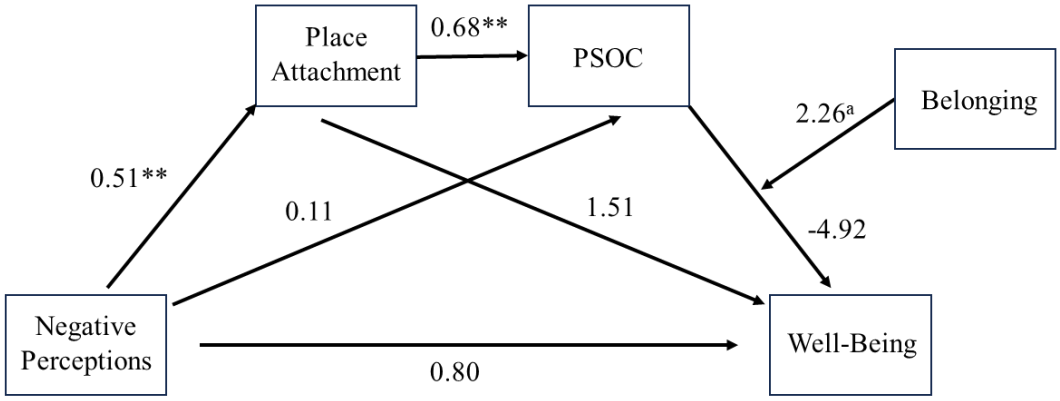

FIGURE 2.3
CONDITIONAL MEDIATION MODEL 3

Note. Unstandardized regression coefficients for each path in the model are provided.

[a] Interaction term for belonging and PSOC

** $p < .001$

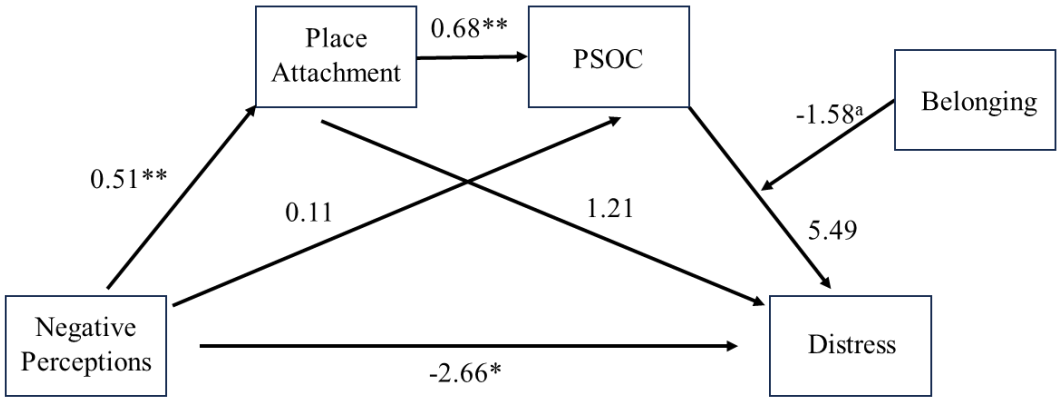

FIGURE 2.4
CONDITIONAL MEDIATION MODEL 4

Note. Unstandardized regression coefficients for each path in the model are provided.

[a] Interaction term for belonging and PSOC

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

Hypothesis 4

Place attachment and PSOC were hypothesized to mediate the relationship between perceptions of rurality (positive and negative) and mental health outcomes (well-being and psychological distress). Given the moderation effect proposed in Hypothesis 3 was not supported, Hayes (2018) suggests it may be appropriate to remove the moderator from the model in order to examine the indirect effect without the influence of the moderator. Again, the model was run four separate times using Hayes' (2018) PROCESS Model 6 to test all possible combinations of predictor and outcome variables (see Figures 3.1-3.4). The predicted serial mediation was not significant for any of the four models (see confidence intervals below).

In the model for positive perceptions of rurality predicting well-being through place attachment and PSOC (Figure 3.1), the total effect was significant (b = 3.05, p = .005, 95% CI [0.96, 5.13]). The direct effect of positive perceptions on well-being controlling for all other variables in the model was not significant (b = -0.42, p = .74, 95% CI [-2.95, 2.12]). Positive perceptions of rurality significantly predicted place attachment (b = 0.68, p < .001, 95% CI [0.50, 0.86]) but not PSOC (b = 0.22, p = .053, 95% CI [-0.27, 0.44]). Place attachment significantly predicted both PSOC (b = 0.61, p < .001, 95% CI [0.40, 0.81]) and well-being (b = 3.10, p = .02, 95% CI [0.41, 5.79]). PSOC was not a significant predictor of well-being (b = 2.14, p = .07, 95% CI [-0.21, 4.50]). The serial mediation was not significant, 95% CI [-0.01, 1.94]. However, the simple mediation through place attachment was significant, 95% CI [0.44, 4.11].

In the model for positive perceptions of rurality predicting distress through place attachment and PSOC (Figure 3.2), the total effect was not significant (b = -0.73, p = .51,

95% CI [-2.89, 1.44]). The direct effect of positive perceptions on distress controlling for all other variables in the model was also not significant (b = 0.57, p = .69, 95% CI [-2.28, 3.42]). Positive perceptions of rurality significantly predicted place attachment (b = 0.68, p < .001, 95% CI [0.50, 0.86]) but not PSOC (b = 0.22, p = .053, 95% CI [-0.003, 0.44]). Place attachment significantly predicted PSOC (b = 0.61, p < .001, 95% CI [0.40, 0.81]) but not distress (b = -1.02, p = .51, 95% CI [-4.06, 2.02]). PSOC was not a significant predictor of distress (b = -0.95, p = .48, 95% CI [-3.61, 1.70]). The serial mediation was not significant, 95% CI [-1.49, 0.59].

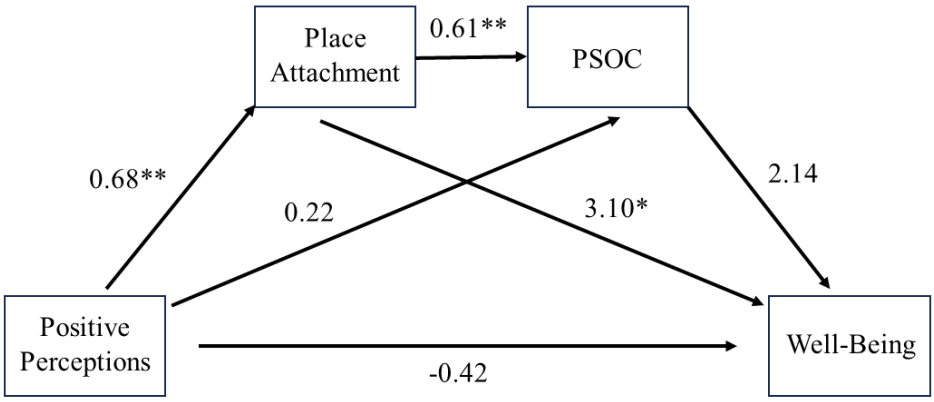

FIGURE 3.1
SERIAL MEDIATION MODEL 1

Note. Unstandardized regression coefficients for each path in the model are provided.

* p < .05, ** p < .001

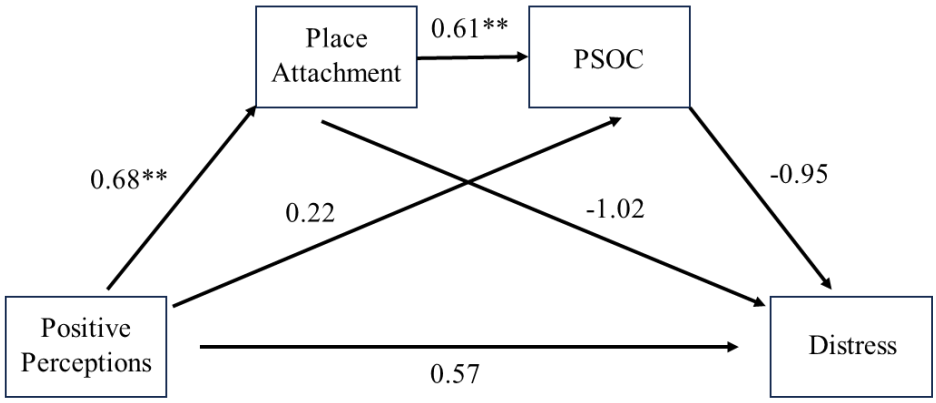

FIGURE 3.2
SERIAL MEDIATION MODEL 2

Note. Unstandardized regression coefficients for each path in the model are provided.

** $p < .001$

In the model for negative perceptions of rurality predicting well-being through place attachment and PSOC (Figure 3.3), the total effect was significant ($b = 3.47$, $p < .001$, 95% CI [1.59, 5.35]). The direct effect of negative perceptions on well-being controlling for all other variables in the model was not significant ($b = 1.42$, $p = .17$, 95% CI [-0.64, 3.48]). Negative perceptions of rurality significantly predicted place attachment ($b = 0.51$, $p < .001$, 95% CI [0.33, 0.69]) but not PSOC ($b = 0.11$, $p = .26$, 95% CI [-0.08, 0.30]). Place attachment significantly predicted PSOC ($b = 0.68$, $p < .001$, 95% CI [0.49, 0.87]) but not well-being ($b = 2.32$, $p = .07$, 95% CI [-0.25, 4.90]). PSOC was not a significant predictor of well-being ($b = 1.87$, $p = .11$, 95% CI [-0.43, 4.17]). The serial mediation was not significant, 95% CI [-0.05, 1.56]. However, similar to the model predicting well-being above, the simple mediation through place attachment was significant, 95% CI [0.08, 2.54].

In the model for negative perceptions of rurality predicting distress through place attachment and PSOC (Figure 3.4), the total effect was significant (b = 3.08, p = .002, 95% CI [-4.98, -1.18]). The direct effect of negative perceptions on well-being controlling for all other variables in the model was also significant (b = -3.17, p = .006, 95% CI [-5.42, -0.92]). Negative perceptions of rurality significantly predicted place attachment (b = 0.51, p < .001, 95% CI [0.33, 0.69]) but not PSOC (b = 0.11, p = .26, 95% CI [-0.08, 0.30]). Place attachment significantly predicted PSOC (b = 0.68, p < .001, 95% CI [0.49, 0.87]) but not distress (b = 0.55, p = .70, 95% CI [-2.26, 3.36]). PSOC was not a significant predictor of distress (b = -0.42, p = .74, 95% CI [-2.93, 2.09]). Again, the serial mediation was not significant, 95% CI [-1.04, 0.71].

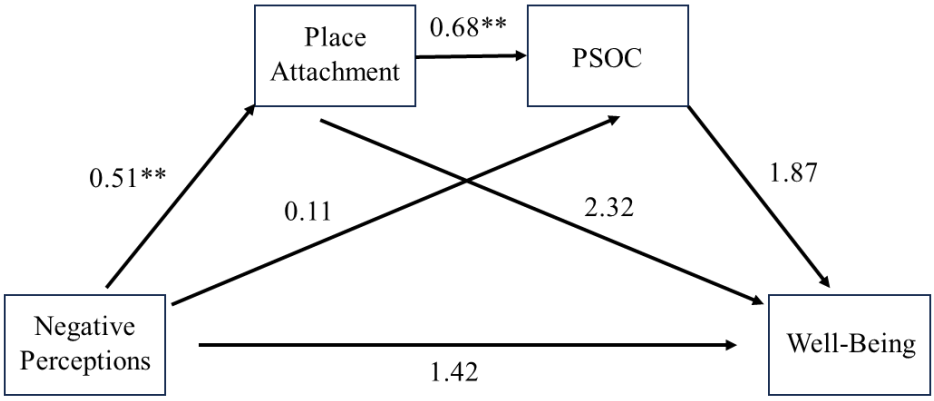

FIGURE 3.3
SERIAL MEDIATION MODEL 3

Note. Unstandardized regression coefficients for each path in the model are provided.

** p < .001

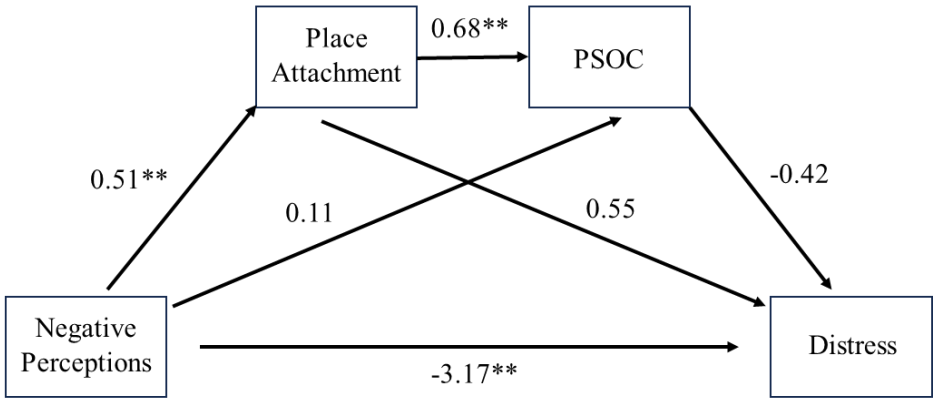

FIGURE 3.4
SERIAL MEDIATION MODEL 4

Note. Unstandardized regression coefficients for each path in the model are provided.

** $p < .001$

Although Hypothesis 4 was not supported as the serial mediation effect for all combinations of predictor and outcome variables was not significant, two simple mediation effects were significant. Place attachment mediated the effect of both negative and positive perceptions of rurality on well-being. This indicates that seeing rurality more positively predicted a greater sense of place attachment, which led to higher levels of well-being.

Post-Hoc Analyses

Post-hoc analyses were conducted to better understand the relationship among the variables given the overall lack of support for Hypotheses 3 and 4. A serial mediation model with place attachment predicting mental health outcomes through PSOC and belong was tested using Model 6 in Hayes' (2018) PROCESS macro (Figures 4.1-4.2). The total effect for the model predicting well-being was significant ($b = 4.43$, $p < .001$,

95% CI [2.64, 6.22]). The serial indirect effect was also significant, 95% CI [1.20, 3.77]. Specifically, place attachment positively predicted PSOC (b = 0.73, p < .001, 95% CI [0.57, 0.90]), which positively predicted belonging (b = 0.74, p < .001, 95% CI [0.41, 1.07]). Finally, belonging positively predicted well-being (b = 4.33, p < .001, 95% CI [3.16, 5.49]). In contrast, the total effect for the model predicting psychological distress was not significant (b = -1.39, p = .17, 95% CI [-3.37, 0.60]). The serial indirect effect was significant, however, 95% CI [-3.43, -0.79]. Specifically, place attachment positively predicted PSOC (b = 0.73, p < .001, 95% [0.57, 0.90]), which positively predicted belonging (b = 0.74, p < .001, 95% CI [0.41, 1.07]). Finally, belonging positively predicted distress (b = -3.62, p < .001, 95% CI [-5.11, -2.13]). In these analyses, those with stronger attachments to their current place felt more a part of their local community, which predicted a stronger sense of belonging overall and subsequently both increased well-being and decreased psychological distress.

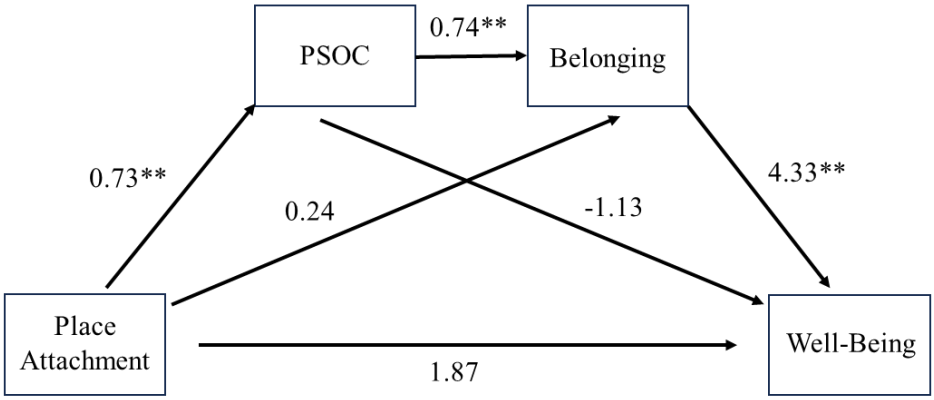

FIGURE 4.1
POST-HOC SERIAL MEDIATION MODEL 1

Note. Unstandardized regression coefficients for each path in the model are provided.

** p < .001

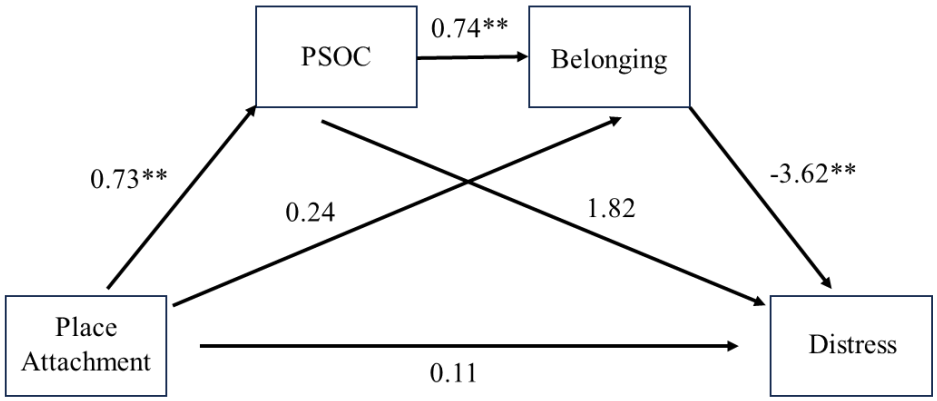

FIGURE 4.2
POST-HOC SERIAL MEDIATION MODEL 2

Note. Unstandardized regression coefficients for each path in the model are provided.

** $p < .001$

In addition, several exploratory questions were included in the demographic questionnaire regarding participants' perceptions of their community's climate towards diversity. The first question was originally used by Paceley and colleagues (2017), and the second question was adapted by this author for racial and ethnic diversity. The third question was adapted from the Negative Images of Rurality scale (Theodori & Willits, 2019) by making it specific to one's current community. Specifically, participants were asked:

- "What is the climate toward lesbian, gay, bisexual, transgender, or queer (LGBTQ) people where you live?" This item used a 3-point Likert scale (1 = hostile/unaccepting, 2 = tolerant, 3 = supportive/accepting).

- "What is the climate toward Black, Indigenous, and People of Color (BIPOC) where you live?" This item used a 3-point Likert scale (1 = hostile/unaccepting, 2 = tolerant, 3 = supportive/accepting).
- "People in my community are prejudiced toward anyone not like themselves." This item used a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).
- "Approximately how many people in your community share your identities (for example, race, ethnicity, sexual orientation, gender identity, religious beliefs, socioeconomic status, age, ability)?" This item used a 5-point Likert scale (1 = almost all, 2 = more than half, 3 = about half, 4 = less than half, 5 = very few).

Descriptive statistics, as well as correlations and MANOVA were used to explore responses to these items. Mean scores were near the midpoint of the scale for both climate toward LGBTQ+ individuals (M = 1.92, SD = 0.69) and BIPOC (M = 2.19, SD = 0.69). A one-sample t-test indicated a significant difference between perceived climate toward LGBTQ+ individuals and BIPOC, t = 3.81, $p < .001$, d = .39. The majority of participants thought their community is tolerant of LGBTQ individuals (52%) and BIPOC (50%). However, 16% of participants identified their community is hostile toward or unaccepting of BIPOC, while 28% of participants identified hostility and lack of acceptance toward LGBTQ folks. In addition, 45% of participants agreed or strongly agreed that people in their community are prejudiced toward anyone not like themselves, while only 25% disagreed or strongly disagreed. The mean score for perceptions overall prejudice within one's community were slightly above the midpoint of the scale (M = 3.25, SD = 1.15). Finally, 74% of participants identified that half or more of the people in their community shared their identities.

Participants' perceptions of prejudice in their community (generally and toward LGBTQ folks and BIPOC specifically) showed a pattern of small to moderate correlations with study variables. Climate toward LGBTQ and BIPOC communities were correlated with positive perceptions of rurality (r = .23, p = .024; r = .23, p = .023, respectively) and negative perceptions (r = .36, p < .001; r = .40, p < .001, respectively), indicating that the more inclusive people perceived their own communities, the more positively they viewed rurality generally. Climate toward LGBTQ and BIPOC communities were also correlated with PSOC (r = .22, p = .035; r = .22, p = .035, respectively), place attachment (r = .23, p = .028; r = .28, p = .006, respectively), and distress (r = -.25, p = .014; r = -.21, p = .038, respectively). Perceptions that people in one's community are prejudiced toward anyone not like themselves were correlated with both positive and negative perceptions of rurality (r = -.38, p < .001; r = -.58, p < .001, respectively), indicating that perceiving more prejudice in one's own community predicted less positive views of rurality generally. Perceptions of prejudice in one's community was also correlated with PSOC (r = -.36, p < .001), place attachment (r = -.37, p < .001), belonging (r = -.30, p = .003), well-being (r = -.26, p = .011), and distress (r = .28, p = .005).

Given the importance of sexual orientation in understanding the relationship among study variables (i.e., MANOVA indicating significant mean differences on study variables for heterosexual compared to LGB+ participants), perceived community climate toward LGBTQ+ individuals was further explored using an independent samples t-test. Specifically, average perceptions of community climate toward LGBTQ+ individuals was compared for heterosexual and LGB+ participants. Levene's test for equality of variances

was not significant (F = .217, p = .64). A two-tailed t-test was not significant (t = .67, p = .50), indicating LGB+ participants and heterosexual participants saw their community as similarly unaccepting toward LGBTQ+ community members (M = 1.83, SD = .70; M = 1.94, SD = .70, respectively).

In addition, given the inclusion of age as a covariate in the models, post-hoc analysis was conducted to further explore this variable. Given that both age and length of residence were correlated with positive and negative perceptions of rurality as well as place attachment, a post-hoc Pearson's r bivariate correlation was run for the relationship between age and length of residence to explore whether length of residence was a confounding variable in the relationship between place variables and age. The correlation was positive with a large effect size (r = .62, p < .001). A series of post-hoc multiple regression analyses were run in an attempt to better understand the relationship of age with place variables. Both age and length of residence were regressed on positive perceptions (R^2 = .15, F(2, 90) = 7.68, p < .001), negative perceptions (R^2 = .15, F(2, 90) = 8.22, p < .001), and place attachment (R^2 = .11, F(2, 90) = 5.62, p = .005). For each model, only age was a significant predictor (β = .38, p = .003; β = .35, p = .007; β = .38, p = .003; respectively).

An exploratory MANOVA was conducted to explore differences across study variables for individuals who identified that half or more people in their community shared their identities compared to those who shared their identities with less than half of community members. Results indicated a significant difference between groups F (7, 86) = 2.79' p = .011, Wilk's Λ = 0.815, η^2 = 0.19. Those with less than half of community members with similar identities to themselves had lower levels of positive perceptions of

rurality (M = 3.03, SD = .60, vs. M = 3.47, SD = .70; p = .007), negative perceptions of rurality (M = 3.11, SD = .60, vs. M = 3.50, SD = .78; p = .028), PSOC (M = 2.94, SD = .75, vs. M = 3.60, SD = .70; p < .001), place attachment (M = 3.12, SD = .64, vs. M = 3.71, SD = .71; p < .001), belonging (M = 4.53, SD = 1.28, vs. M = 5.50, SD = 1.04; p < .001), and well-being (M = 43.00, SD = 7.47, vs. M = 48.14, SD = 6.31; p = .001).

Finally, a post-hoc power analysis was conducted using G*Power. For a two-tailed bivariate correlation with a moderate (r = .3) effect size and a sample of 95, power was estimated at 0.847. For a two-group MANOVA with seven variables and a moderate effect size (f^2 = .0625), power was estimated at 0.345; for the same analysis with a large effect size (f^2 = .16), power was estimated at 0.789. Although multiple linear regression was not reported in the current study, Hayes' (2018) PROCESS macro uses ordinary least squares regression. For a multiple regression model with four predictors and a moderate effect size (f^2 = .15), power was estimated at 0.853. Utilizing an application developed by Schoemann and colleagues (2017) that uses Monte Carlo confidence intervals, the obtained sample size, measured correlations among variables, and variable standard deviations to compute a power analysis provided helpful information regarding testing the serial mediation model predicted in Hypothesis 4. When inputting correlations for each of the four models tested in Hypothesis 4 and using 1,000 replications with 20,000 Monte Carlo draws per replication, the following power statistics were determined. For the serial mediation, power for each model was .69, .08, .65, and .06, respectively. For the simple mediation from perceptions of rurality to mental health outcomes through place attachment, power for each model was .67, .44, .38, and .06, respectively.

CHAPTER V

DISCUSSION

The current study sought to examine the relationships among perceptions of rurality, psychological sense of community, place attachment, and belonging with mental health outcomes including eudaimonic well-being and psychological distress. This chapter will contextualize results of the current study within previous literature as well as Bronfenbrenner's (1979) ecological systems theory in order to better understand both significant and non-significant findings. In addition, implications for prevention, intervention, and policy are discussed. Contributions to the field, limitations of the study, and future directions are highlighted.

Summary of Findings

The current study contributes to a greater understanding of rural residents' experiences with place and community and the ways in which those experiences affect mental health. Results supported a simple mediation effect for perceptions of rurality predicting well-being through place attachment. In addition, post-hoc analysis supported a serial mediation effect for place attachment predicting mental health outcomes through PSOC and belonging. This indicates that not only do experiences with the social aspects of rural life, like whether or not one feels part of the community, matter for rural mental health, but a sense of attachment and positive views of rural life do also. Results also identified significant differences across study variables based on SES, sexual orientation,

and age. Differences between heterosexual and sexual minority participants are consistent with minority stress theory (Meyer, 2003).

Preliminary Analysis Results

Before considering the results of hypothesis testing, examining the relative levels of variables reported by the current sample, as well as comparing these to previously documented levels, is informative. For comparisons on positive and negative perceptions of rurality (i.e., Positive Images of Rurality and Negative Images of Rurality; Theodori & Willits, 2019), the frequency of responses for each item were compared between the current study and Theodori and Willits' results. In comparing the current study with Theodori and Willits (2019) findings from rural Texans in 2012, the results indicate stronger differences across the positive statements about rural life as compared to the negative statements. In particular, participants in the current study were notably less likely to agree that rural families are more tight-knit, rural life is more wholesome due to proximity to nature, rural communities are the most satisfying, rural life is less stressful, rural life brings out the best in people, and rural people are more likely to accept others as they are. In addition, current participants were less likely to disagree with negative perceptions of rural people as crude and uncultured in their talk, actions, and dress, and rural people as suspicious and prejudiced.

Many significant events have occurred in the United States between 2012, when Theodori and Willits (2019) collected their data, and 2022-2023 when the current data were collected. For example, the murder of George Floyd in Minneapolis, Minnesota, by white police officer Derek Chauvin in May 2020 sparked "some of the largest protests in U.S. history" (Cornish et al., 2021, para. 2) and was a catalyst in the growing the

movement for Black lives. In addition, attention has been drawn to legislative bills across the country that target LGBTQ+ rights, including those that block access to gender-affirming health care for transgender youth and to prevent discussion of gender and sexual orientation in schools (Peele, 2023). Public discourse related to experiences of oppression may have contributed to the current sample's greater frequency of perceiving rural people as prejudiced and unaccepting, and perhaps even lower agreement that rural life brings out the best in people, compared to participants in the original sample.

The average levels of PSOC and place attachment were both in the moderate range of the scale (M = 3.42 and 3.55, respectively, with possible scores ranging from 1-5). The average PSOC score was significantly lower than a previous Midwestern sample reported by Peterson and colleagues (2008). This finding is somewhat unexpected as previous research utilizing different measures of PSOC has found rural residents to have a stronger sense of community than their urban counterparts (Avery et al., 2021; Obst et al., 2001). The COVID-19 pandemic led to mandatory shut-downs of community events and spaces as well as voluntary social distancing and isolation (Brzezinski et al., 2020), which may have contributed to the difference in PSOC between samples. Although it is difficult to draw meaningful conclusions about the relative level of place attachment in the current sample as the only identified comparison sample was collected in Poland (Lewicka, 2005), place attachment seems to fall in a similar range across samples.

The mean score representing well-being in the current sample (i.e., Flourishing Scale; Diener et al., 2010) fell into the upper quartile of the scale's range and was significantly higher than a sample consisting primarily of U.S. college students. This is consistent with previous research finding that various domains of well-being are higher

for rural compared to urban residents (Gilbert et al., 2016; Wienke & Hill, 2013). In contrast, the current sample reported experiencing higher levels of psychological distress (as measured by the K10 scale; Kessler et al., 2002) in comparison to a representative U.S. sample (Breslau et al., 2021) as well as a rural Australian sample (Butterworth et al., 2014). Although the mean score (M = 20.06) is below the mid-point of the scale (30), it does fall into the moderate range in score interpretation (Slade et al., 2011).

In addition, the current sample is much less likely to report experiencing low levels of psychological distress (33.7% compared to 66.8% [rural Australian sample; Butterworth et al., 2014] and 74.5% [U.S. sample; Breslau et al., 2021]). Other evidence points to mental health effects of the pandemic peaking after (Levine, 2022) the Breslau and colleauges (2021) data were collected (i.e., May 2020). Thus, it is possible that lingering mental health effects of the COVID-19 pandemic (e.g., fear, anxiety, isolation, grief; Levine, 2022), are reflected in the higher-than-expected levels of distress in the current sample. Given the unavailability of a more recent U.S. sample of K10 scores to use for comparison, it is also impossible to rule out the possibility that distress has increased in rural areas independent of the pandemic as well. For example, the phenomenon of rural brain drain (i.e., disproportionate rates of out-migration of well-educated rural youth and adults) both reflects and influences negative changes in many rural economies (Carr & Kefalas, 2009), and neighborhood socioeconomic status has been found to be positively associated with psychological distress (Lindegaard Jakobsen et al., 2022).

These levels of psychological distress are of significant concern, particularly in the context of attitudinal barriers to seeking mental health care that are unique to rural

areas and can prevent seeking care until levels of distress are very high (Cheesmond et al., 2019; Jensen et al., 2020). In addition, this finding is unexpected in the context of previous research that has identified higher levels of distress in urban compared to rural areas in the United States (Dhingra et al., 2009). The frequency of elevated levels of psychological distress (36.8% with high or very high scores) in the current sample underscores the importance of identifying areas of prevention and intervention such as those explored in the current study.

Hypothesis Testing Results

Hypothesis 1 was supported. Place attachment, PSOC, belonging, and well-being were positively correlated with one another. These findings are consistent with previous research quantitative research identifying associations between place attachment and PSOC (Scannell & Gifford, 2016), PSOC and belonging (Lardier et al., 2019), PSOC and well-being (Stewart & Townley, 2020), and belonging and well-being (Shelton et al., 2020). No quantitative studies were identified that measured place attachment and either belonging or well-being, although qualitative studies suggested a possible relationship for place attachment with both belonging (Terman, 2014) and well-being (Scannell & Gifford, 2017). In addition, psychological distress was negatively correlated with place attachment, PSOC, belonging, and well-being in the current study as hypothesized. These results are consistent with previous quantitative research identifying associations between distress and belonging (Poteat et al., 2011) and distress and well-being (e.g., du Plooy et al., 2019). Previous research on the association between PSOC and psychological distress is mixed, with some previous results also finding a negative relationship (Kelly et al., 2011) and others finding no significant relationship (Handley et al., 2019). No previous

studies of any methodology could be found that considered the relationship between distress and place attachment. The negative correlation with a moderate effect size found in the current study is novel yet consistent conceptually given that lower levels of place attachment may indicate lower levels of connection, security, and stability in relationship to place. An examination of the overall patterns among correlations indicates that variables of interest, including place attachment, PSOC, and belonging, were more strongly associated with well-being (r = .52, .52, and .76, respectively) than psychological distress (r = -.23, -.28, -.50, respectively), although correlations were statistically significant across both outcomes.

Exploratory correlations for perceptions of rurality indicated that both positive and negative perceptions of rurality were positively correlated with place attachment, PSOC, belonging, and well-being, and only negative perceptions was negatively correlated with psychological distress. Given the novelty of the measure used in the current study, which has not been used in research beyond the development study (e.g., Theodori & Willits, 2019) these results contribute to the understanding of how perceptions of rurality impacts the lives of rural residents. Of note, the correlations for positive perceptions of rurality were slightly stronger for PSOC and place attachment (r = .57, .67) compared to negative perceptions (r = .47, .59). Given these correlations, it is possible the notable decrease in the frequency of agreeing with positive perceptions of rurality compared to the original dataset (described above) may be associated with the slightly lower levels of PSOC compared to the Midwest more generally. In contrast, correlations for negative perceptions of rurality were slightly stronger for well-being and distress (r = .43, -.45) compared to positive perceptions (r = .35, NS). The content of

questions assessing prejudice and discrimination in the negative perceptions subscale and the well-documented negative effects of discrimination on mental health (e.g., Sutter & Perrin, 2016) may help explain this pattern of results.

Finally, consideration of the pattern of correlations among perceptions of rurality, PSOC, and place attachment may be helpful for understanding results of the current study that follow. In particular, correlations between positive and negative perceptions of rurality with PSOC and place attachment demonstrate large effect sizes (*r* : .47 - .67). While these are large effect sizes, they are not strong enough to suggest concerns with multicollinearity (i.e., .8 or above; Young, 2017). This suggests that while individual's perceptions of rurality as a whole are related to their experiences with their own specific community, these are in fact separate constructs. These results support qualitative findings of a sample of BIPOC rural residents who tended to view rural life positively and value their experiences living rurally overall, yet had very limited involvement with the local community due to experiences of discrimination (Plastow, 2010). These experiences further highlight the distinction between perceptions of rurality and experiences within one's own rural community. This distinction also suggests that there are additional factors that contribute to perceptions of rurality beyond immediate experiences in one's community that may occur across ecological systems levels (Bronfenbrenner, 1979), such as personal history at the individual level or stereotypes about rural areas at the macrosystem level.

Hypothesis 2 was partially supported. There were significant differences across variables based on SES, sexual orientation, and age. Specifically, results of a MANOVA indicated those with fewer financial resources experienced lower belonging and higher

psychological distress. Previous qualitative research has identified barriers to belonging for those with lower SES, such as being unable to attend community events due to work requirements and being viewed negatively in the context of rural values of hard work and meritocracy (e.g., Caxaj & Gill, 2017; Sherman & Sage, 2011). One previous quantitative study identified that higher household income predicted PSOC (Wilkinson, 2008), which was not replicated in the current study. Given that none of the variables that were different based on SES were specific to rural communities, it is possible that these differences reflect those in the broader society instead (e.g., reduction in household income longitudinally associated with increased risk of psychological disorders in a representative U.S. sample; Sareen et al., 2011). However, as will be discussed further below, these results provide important information for potential interventions.

Results of a second MANOVA also indicated there were significant differences across sexual orientation, such that sexual minority participants had more negative perceptions of rurality overall as well as lower levels of PSOC, place attachment, belonging, and well-being compared to their heterosexual peers, with the difference for distress approaching significance ($p = .051$). A substantial research base exploring experiences of LGBTQ+ rural residents has documented both negative and positive experiences within one's local community, discrimination, prejudice, and hiding of one's identity (e.g., Kennedy, 2010; Power et al., 2014; Smith et al., 2018) supporting hypothesized differences in study variables across sexual orientation.

Minority stress theory (Meyer, 2003) provides a helpful framework for understanding these results. Meyer (2003) identified four stressors experienced by sexual minority individuals that have been repeatedly associated with mental health outcomes

(e.g., Velez & Moradi, 2016): heterosexist discrimination, expectations of stigma, internalized heterosexism, and low outness. While the current study did not assess for specific experiences of heterosexist discrimination, previous research has identified many examples shared by rural sexual minority residents (e.g., Paceley et al., 2017; Smith et al., 2018). The current study offers a proxy for expectations of stigma through the post-hoc question regarding community climate toward LGBTQ+ populations. For sexual minority residents, the mean response for this question was 1.83 (SD = 0.70), which falls between the "tolerant" (2) and "hostile/unaccepting" (1) responses; thus, LGB+ rural residents in the sample (as well as their heterosexual counterparts, M = 1.94, SD = 0.70) expect their community to be somewhere between hostile towards and tolerant of queer identified people. Previous research has also identified that sexual minorities living in rural areas are less likely to be out than their urban counterparts (Power et al., 2014; Rickard & Yancey, 2018).

While the minority stress model has been supported broadly (e.g., Velez & Moradi, 2016), there are unique concerns regarding the experiences of rural sexual minority residents. In particular, previous research has identified higher levels of psychological distress for rural compared to urban sexual minority populations (Barefoot et al., 2015; Fisher et al., 2014). This suggests that factors unique to rurality (e.g., small community sizes leading to increased visibility, higher rates of conservative values; Kennedy, 2010; Smith et al., 2018) may contribute to increased experiences or exacerbated effects of discrimination and heterosexism. The results of the current study, which identify systematic differences for sexual minorities in their experiences of their rural communities and provide a reminder that rural communities are not uniform, (i.e.,

sub-populations may have varying experiences),may offer important avenues for community-level interventions.

Age was also identified as a covariate in the current study, demonstrating positive correlations with positive and negative perceptions of rurality and place attachment, as well as a negative correlation with psychological distress. These results are consistent with previous rural research, which identified a positive relationship between age and positive perceptions of rurality (Theodori & Willits, 2019) as well as place attachment (Anton & Lawrence, 2014). Post-hoc analyses exploring the relationship between age and place variables considered length of time one had lived in their current community as a potential confounding variable. Regression results indicated that age, but not length of residence, significantly predicted perceptions of rurality and place attachment. These results are consistent with population change patterns in rural areas, such that younger individuals seem more likely to move away from rural areas and older individuals tend to age in place (Johnson, 2017). It is possible that generational differences, such as those in political beliefs (Pew Research Center, 2018), may affect perceptions of rurality. Availability of good jobs in local areas is a well-established concern for rural youth (e.g., Ulrich-Schaad, 2016), which may be connected with the tendency for younger adults to view rurality less positively in the current study. In addition, perhaps due to differences across the lifespan, increased time available for interacting with the local community and the place itself may lead to an increased sense of attachment. Overall, evidence that younger adults view rurality less positively and are less attached to their communities underscore concerns for rural brain drain (Carr & Kefalas, 2009).

Several demographic variables that were expected to demonstrate a pattern of differences across study variables were not significant. First, qualitative research has found that newcomers to a given rural area tend to perceive local residents as distrustful and reluctant to include them in community leadership and reported feeling "new" to the area for years (Collins et al., 2017; Patten et al., 2015). These findings are supported by other quantitative research demonstrating the association between length of residence in one's rural community and PSOC (Wilkinson, 2008). However, length of residence and PSOC were not significantly correlated in the current study. Thirty-two percent of participants had lived in their current community for five years or less, with a range of 1-80 years, so it is unlikely that range restriction contributed to this finding. However, length of time in one's current community was positively correlated with place attachment. This suggests that one may not feel more a part of their community over time, but they do become more attached to their local area, inclusive of both geographical area and social connections. Given increased length of contact with one's community does not lead to feeling more connected to it, an exploration of factors that do increase PSOC continues to be important.

In addition, objective indicators of rurality, such as community size and percentage of the county population classified as rural (which provides limited information about proximity to an urban area), were not correlated with any study variables. Previous research found increased remoteness related to increased psychological distress (Butterworth et al., 2014) and decreased perceptions of remoteness positively related to PSOC (Kulig et al., 2018). In addition, given rural-urban differences in place attachment (Anton & Lawrence, 2014) and well-being (Gilbert et al., 2016),

objective factors of rurality were expected to predict these variables as well. The results of the current study suggest that population size both of the community and the county (which is taken into account for rural classifications) is independent of resident's experiences within their community. This suggests that people can be attached and experience a sense of community whether they live in a completely remote area, a very small community of 100 people, or a small town of 25,000.

Although the population of the nearest community and the degree of rurality of one's county were not correlated with any study variables, population density (calculated via ZIP code) was positively correlated with PSOC (r = .24) and distress (r = .25). Thus, having more people living nearby is associated with a stronger sense of community and increased psychological distress. While the correlation between PSOC and population density is consistent with previous research (e.g., Kulig et al., 2018), the relationship with distress is unexpected and is opposite of findings by Butterworth and colleagues (2014) which found that increased remoteness was associated with greater distress. It is possible , given that neither belonging nor well-being were different across population density, that increased use of technology for communication originating with the COVID-19 pandemic allowed more remote residents the benefits of remoteness (e.g., quiet and peaceful) without the drawbacks (i.e., increased isolation).

Hypothesis 3 was not supported. Previous research found that belonging moderated the effect of loneliness on depression, serving as a protective factor (Baskins et al., 2010). Similarly, it was expected in the current study that belonging would moderate the effect of PSOC on mental health outcomes within the larger serial mediation model, such that if individuals had higher levels of belonging overall, the

magnitude of the relationship between PSOC and mental health would be smaller. This was not found to be the case, as both the interaction of PSOC and belonging on mental health and the index of moderated mediation were not significant across models. Results of Hypothesis 4 (discussed below) found that PSOC was not a mediator of the relationship between perceptions of rurality and mental health outcomes in either simple or serial mediation models. This result likely contributes to the lack of significance of belonging as a moderator; it is impossible to moderate a mediation pathway that was not found to exist in the current data.

The lack of significant findings regarding Hypothesis 3 does offer important information for consideration. Previous qualitative research has suggested that support networks outside the local community are important for the well-being of LGBTQ+ rural residents (e.g., Kennedy, 2010). The hypothesized model was consistent with the idea that overall belonging would act as a buffer for those who did not have a strong sense of community locally. However, given this was not supported, it suggests that other systems of support- such as long-distance friendships, online connections, or even support from local family and friends- captured in the belonging framework may not be sufficient to fully buffer the effects of a poor sense of community for individuals who experience lower PSOC. However, given the limitations of the small sample size in the current study, as well as qualitative data documenting lived experiences that may contradict the findings of the current study (Kennedy, 2010), implications of results of Hypothesis 3 should be made with caution.

Hypothesis 4 was also not supported. Perceptions of rurality was expected to predict mental health outcomes through the serial mediation of place attachment and

PSOC; serial mediations for each of the four combinations of predictor and outcome variables were not significant. However, the simple mediation effect for perceptions of rurality predicting well-being through place attachment was significant for both positive and negative perceptions of rurality. In both models, viewing rurality more positively (both by greater agreement with positive statements and lower agreement with negative statements) predicted a stronger sense of place attachment, which predicted higher levels of well-being. The converse is also true, such that those who are living in a rural area despite holding negative beliefs about rurality are less attached to the place they live and have a lower sense of well-being.

No previous studies had examined the relationship between perceptions of rurality and mental health outcomes. In addition, no previous research could be identified that examined relationships between place attachment and mental health. Place attachment has been studied in previous literature primarily in relationship to other place-based variables, such as PSOC (e.g., Scannell & Gifford, 2016). Thus, place attachment as a single mediator, independent of PSOC which has a well-established relationship with well-being (Stewart & Townley, 2020), was unexpected. The relationship between variables measuring affective and cognitive components of relationship to place at slightly different levels in relationship to the individual (i.e., perceptions of rurality reflecting the macrosystem and place attachment reflecting various aspects of micro-, meso-, and exosystems) highlights the importance of considering individuals within their context at varying levels, as suggested by Bronfenbrenner (1979).

Post-Hoc Results

Given an overall lack of support for Hypotheses 3 and 4, post-hoc analyses were conducted to better understand the relationship among variables measured in the current study. Results of post-hoc testing supported a serial mediation model in which place attachment predicted mental health outcomes through PSOC and belonging. Decisions about the placement of variables for post-hoc testing was informed by results of the current study as well as previous research (e.g., Scannell & Gifford, 2016; Shelton et al., 2020; Terman, 2014). For example, given inconsistencies in whether the total effects for perceptions of rurality were significant in predicting mental health outcomes in Hypothesis 4, perceptions of rurality was replaced as the predictor. In line with previous research identifying place attachment as a predictor of PSOC (Scannell & Gifford, 2016), it was decided to maintain these two variables in their hypothesized order. Previous research has demonstrated belonging as a mediator in predicting mental health outcomes (Poteat et al., 2011; Shelton et al., 2020) and established a relationship between PSOC and belonging (Mammana-Lupo et al., 2014). Qualitative research has further suggested a possible connection between place attachment and belonging (Robinson et al., 2020; Terman, 2014). Given these findings, along with lack of support for belonging as a moderator in Hypothesis 3 and strong correlations among belonging and other variables of interest in the study, belonging was examined as a mediator.

Results of the serial mediation in which place attachment was expected to predict mental health outcomes through PSOC and belonging, indicated that those who have greater attachment to where they live are more likely to experience a stronger sense of community, which predicts a greater overall sense of belonging and ultimately higher

well-being and lower distress levels (see Figures 4.1 & 4.2). Perhaps feeling attached to, committed to, and proud of one's place contributes to a greater connection with others in that place (Scannell & Gifford, 2017). One's immediate community likely accounts for a good deal of time spent with others, and thus opportunities to build relationships (e.g., work, school, community groups and activities), although there are certainly other important relationships that contribute to an overall sense of belonging (i.e., friends and family [including relationships maintained over long distances]; Malone et al., 2012). Thus, rather than one's sense of belonging moderating the relationship between PSOC and mental health as hypothesized, the role of belonging appears to partially explain the effect of PSOC on mental health outcomes.

Post-hoc results examining questions regarding community climate toward diversity as well as perceptions of diversity within the community offer important information as well. First, having people who share identities similar to oneself is important, given significant differences for those who perceived themselves as sharing identities with half or more of their community (e.g., White and heterosexual) compared to those who perceived themselves as sharing identities with less than half of their community. Those who had fewer people similar to themselves perceived rurality less positively and had lower levels of PSOC, place attachment, belonging, and well-being. This is concerning given evidence that many rural areas have smaller BIPOC populations than urban areas (Castillo & Cromartie, 2020). In addition, as noted above, fewer LGB+ individuals tend to be out in rural communities compared to urban areas (e.g., Barefoot et al., 2015), which may imply reduced visibility of this population as well. The results from the current study can be further understood in the context of previous research finding

that a sense of belonging with identity-based communities is important for well-being (Barr et al., 2016; Yoon et al., 2012). Those with fewer local community members with identities in common to themselves were found to have lower levels of well-being in the current study, likely due in part to limited access to identity-based communities.

A final finding of note from post-hoc testing is that both heterosexual and sexual minority participants in the current study perceived their communities as between hostile and tolerant toward LGBTQ+ individuals (M = 1.92, SD = 0.69; a response of 1 indicated hostile/unaccepting, and a response of 2 indicated tolerant in the questionnaire). A t-test was not significant, indicating heterosexual and sexual minority participants perceived the LGBTQ+ climate in their communities similarly. However, a post-hoc power analysis using G*Power measuring a two-tailed t-test with groups as sized in the current study had power of only .55 to detect a moderate effect size (d = 0.5). This suggests it is possible that a significant difference does exist such that the predominantly heterosexual sample in the current study overestimated the tolerance of their communities toward LGBTQ+ community members. As noted above, the current political climate is rife with anti-LGBTQ+ legislation (Peele, 2023). This has likely increased awareness of anti-LGBTQ+ sentiments in general, which can be compounded by increased prevalence of traditional and conservative values in rural areas (e.g., KFF, 2017; Smith et al., 2018).

In addition, participants in the current study viewed their communities as somewhat more tolerant of BIPOC on average as compared to LGBTQ+ populations (M = 2.19, SD = 0.69, vs. M = 1.92, SD = 0.69 respectively; $p < .001$) and less likely to be hostile or unaccepting (16% compared to 28%). Importantly, the limited racial and ethnic diversity in the current sample did not allow for comparisons to determine whether

BIPOC and White participants rated the climate similarly or different regarding the climate toward BIPOC (as was done for sexual minorities and heterosexual participants regarding the climate toward LGBTQ+ community). Given this, as well as previous qualitative research that has documented discrimination experienced by BIPOC in rural areas (e.g., Caxaj & Gill, 2017; Plastow, 2010), it is possible that results significantly underestimate racial and ethnic discrimination and reflect differences in the perception of various types of discrimination in rural areas rather the actual extent of discrimination. Given the sample for the current study was predominantly White (89%), and rural areas tend to have less racial and ethnic diversity compared to urban areas (Castillo & Cromartie, 2020), intergroup contact may be a helpful framework for interpreting these results. Pettigrew and Tropp (2011) describe the effect of intergroup contact on both general knowledge about the other group and perspective-taking that leads to empathy in the context of contact theory. Further, meaningful contact and relationships with BIPOC are important in moving across stages of white racial identity development (Helms, 1990; Malott et al., 2021), with later stages associated with recognizing and taking responsibility for racism. Taken together, it is possible that a lower likelihood of White rural residents forming relationships with BIPOC resulted in reduced likelihood of recognizing racism in the current study.

Implications

Results of the current study offer a range of implications to support mental health for rural Americans. The simple and serial mediation effects discussed above offer two unique ways to understand, as well as intervene in, the relationship between experiences with place, community, and mental health outcomes. One predictor of well-being is the

mediated effect of perceptions of rurality through place attachment. Another predictor of both well-being and distress is the mediated effect of place attachment through PSOC and belonging. Whereas intervening in the first pathway might require supporting individuals in changing their perceptions of rurality as a whole, intervening in the second pathway targets more specific experiences with one's community. Given suggestions in previous research that place attachment may develop relatively quickly (Ruiz et al., 2011), this pathway may be more amenable to timely intervention. Supporting rural residents in changing their perceptions of rurality may require more time-intensive, global interventions such as targeting rural stereotypes and engaging in activism and community change to improve experiences with rurality by reducing prejudice and increasing openness within rural communities.

In addition to timeliness, considering the acceptability of any intervention in the context of the dual values of individualism and collectivism in rural areas seems important. Previous research has connected higher levels of both individualism and collectivism to rural residence (Chen et al., 2015; Cole & Bondy, 2020). Thus, while rural residents may tend towards self-reliance (Cheesmond et al., 2019), the cooperative relationships among community members and recognition that group members have a common fate (i.e., collectivism, Oyserman et al., 2002) is also important. In the potential interventions that follow, it may be helpful in increasing buy-in to engage with individuals' sense of the importance of community and of helping one another, as well as the ways in which community members' outcomes are intertwined with one another.

A range of interventions may be expected to increase place attachment. Based on the results of the current study, such interventions may be particularly helpful for those

who are young, new to the community, or hold minoritized identities. Place attachment is a multi-dimensional construct including the meanings of a place; one's relationship with the place (affective, cognitive, and behavioral aspects); and social and physical aspects of the place itself (Scannell & Gifford, 2010). Thus, interventions might target any of these domains, such as deepening an emotional connection with place, highlighting important meanings of the place in one's life, or connecting one with valuable physical aspects of the space like a chance for rest or recreation.

Several examples may be drawn from the author's recent experience moving to a small town in rural Western Nebraska, as well as qualitative research by Pederson (2018) and Riethmuller and colleagues (2021). For example, the physical aspects of a place when connected to farming, served as an important part of the local economy and culture, and increased place attachment for Australian young adults (Riethmuller et al., 2021). Agriculture is an important part of Western Nebraska history, culture, and economy as well. Community institutions, such as a local museum dedicated to the history of the area, and events that demonstrate historical harvest methods have been attended by the author and did seem to result in an increased sense of place attachment. For example, the author had an increased interest in and interaction with various aspects of the area (e.g., noticing different phases of the harvest, desire to try local German-Russian dishes with ties to the area's ethnic heritage) and felt excited to share information with others. Additionally, Stefaniak and colleagues (2017) tested an intervention in which middle and high school students learned about local multiethnic history through a series of four workshops. Results demonstrated that participants reported stronger place attachment after the intervention compared to pre-intervention ratings. Qualitative research has also

highlighted the importance of pride in one's place and being part of that community as important for building place attachment (Pedersen, 2018). Local events that are expected to build community pride, such as school events (e.g., high school football games), attending performances by local musicians and artists, or celebrating an area's unique culture or history (e.g., summer festival attended by the author to honor the community's location along the historic Oregon Trail) may be expected to support place attachment as well. These potential interventions would take place at the microsystem level in Bronfenbrenner's (1979) model and would be implemented by community institutions.

Interventions implemented at the individual level, such as in the context of psychotherapy, may also support place attachment. For example, mindfulness interventions have been found to increase connectedness with nature compared to walking outdoors as usual (Nisbet et al., 2019). Given the role of connection with physical aspects of place in place attachment, this may be helpful. In addition, walk-and-talk therapy, which has become more popular in the context of the COVID-19 pandemic, has been found to facilitate a deeper awareness of and connection with nature during sessions for some clients (Newman & Gabriel, 2023). Previous research found place attachment to mediate the effect of nature connectedness on mental health (Basu et al., 2019), which further supports exploring the use of common individual psychotherapy techniques to support place attachment.

Previous research has also supported interventions to increase PSOC. For example, O'Connor (2013) describes an intervention implemented in neighborhood blocks in Lawrence, Massachusetts, in which one neighbor invites 7-10 people from their block they do not know well to their home for three meetings. Meetings include

refreshments and support by trained facilitators to engage the group in conversations and activities with a goal of forming relationships with one another and building a sense of community. Qualitative and quantitative results indicated increases in all four components of PSOC as identified by McMillan and Chavis (1986) as a result of this intervention occurring at the microsystem level. Previous research also highlights that engaging in community service, participating in community events, and participating in local organizations can contribute to stronger PSOC (Herslund, 2021; O'Connor, 2013; Wilding & Nunn, 2018). These interventions might occur at the microsystem level (e.g., becoming involved in an organization) or the exosystem level (e.g., one's organization providing community service to another group within the community). Working with communities to offer a range of organizations or events across a wide array of interests may support PSOC. For example, this author, in an attempt to build a sense of community in her rural location, is part of a local quilt guild and attends a yoga class, and knows other community members who participate regularly in community events including meetings of philanthropic organizations and church gatherings. This wide range of opportunities for engagement provides the opportunity to engage meaningfully with others in the community on an on-going basis. Results of the current study that indicate lower levels of PSOC in more sparsely populated areas indicate special care should be given in considering interventions for these areas. At the same time, results support that PSOC can be experienced in communities of any size; even small communities may benefit from various interventions aimed at increasing PSOC. In any community-based interventions in rural communities, results of the current study indicate it is important to consider the impact of SES on accessibility to events and organizational engagement. For

example, minimizing cost to attend events and scheduling them at a range of times so that people working various shifts are able to attend may be important considerations.

In addition to these interventions at the microsystem and exosystem levels, interventions at the individual level within the context of psychotherapy may support clients in building stronger PSOC as well. Supporting clients in identifying barriers to participation in community organizations that may be effectively addressed within psychotherapy may be helpful. For example, clients who experience social anxiety may have significant difficulty attending an organization meeting for the first time. Helping connect clients with sources of information about upcoming community events or community organizations may be helpful. For those clients who are unable to identify any community organizations or events that are suited to their interests or needs, an exploration of empowerment-based interventions to support the development of such a group may be helpful as well. The latter suggestions also require community connectedness on the part of the therapist in order to provide information about existing opportunities and to support potential resourcing for a new group or event.

Additionally, results of the current study highlight the importance of intervening at a broader community level through activism. Results of note include the importance of perceptions of rurality in predicting well-being through place attachment, more negative experiences of individuals with minoritized identities within their community, and widespread perceptions of intolerance of LGBTQ+ populations. Several findings are optimistic for the possibility of engaging rural residents in activism and advocacy to make their communities safer for all residents. First, rural residents in the current sample seem less committed to a perhaps overly positive view of rurality than previous research

suggested (Theodori & Willits, 2019) given several instances of lower levels of agreement with positive statements and higher levels of agreement with negative statements compared to the Theodori and Willits sample. Second, regardless of sexual orientation, participants recognized anti-LGBTQ+ sentiment in their community. As a group, participants did recognize prejudice within their communities in a general sense as well as toward LGBTQ+ individuals and BIPOC specifically. Together, these reflect the capacity of rural residents to reflect on their communities in order to recognize problematic areas, which is an essential first step toward making change. These findings are complemented by previous research indicating that conservative beliefs are not as universal as is often perceived for rural areas (KFF, 2017).

Barton and Currier (2020) describe activism of queer women in rural Kentucky in response to a very public incident of religious homophobia. The authors highlight the importance of recognizing that some rural residents do hold beliefs in alignment with social justice, as well as leveraging the strengths of rural communities in mobilizing activism work. In addition to the importance of such work in itself, engaging in collective action can serve as a buffer against the negative effects of experiencing heterosexist discrimination (Velez & Moradi, 2016). Empowering clients with marginalized identities to engage in activism could occur at the individual level within psychotherapy. At the microsystem level, LGBTQ+ resource centers may serve not only to organize activism and advocacy, but also as an opportunity to establish belonging with others with similar identities and facilitate feeling welcomed into the broader community (Hulko & Hovanes, 2018). Creating spaces for individuals with similar identities to connect in rural communities is expected to be beneficial for those with other minoritized identities as

well. For example, in this author's community, a local community center serves as a place of connection for local Latine populations through activities such as hosting cultural celebrations (e.g., Dia de los Muertos, Cinco de Mayo) and ESL classes.

Interventions enacted by systems themselves would be important for communities seeking to improve residents' well-being through mechanisms of place attachment and PSOC in addition to individuals implementing change. At the microsystem level, for example, schools could offer holiday celebrations across cultures, such as classroom celebrations for both Halloween and Dia de los Muertos. Workplaces could organize challenges or incentives for employees for engaging in activities that may build PSOC (e.g., attending a community event, joining an organization, having dinner with a neighbor) such as those posed for physical health and wellness-related behaviors. At the exosystem level, local governments could provide services specific to those new to the area to facilitate opportunities for building PSOC and place attachment. Organizing periodic outreach events where local organizations can gather and provide information to interested residents may be one example. Sharing about an event like this through the mail, such as including a flyer in a city utility bill, may be one way to reach residents who may not be involved in spaces where such an event might be advertised. Similarly, counties could facilitate interventions such as that described by O'Connor (2013; see above). In addition, at all levels it will be important for systems to take steps to ensure equity and safety for individuals across identities. This may include ensuring access to gender-affirming restrooms, meaningfully engaging with dates or holidays that honor specific groups (e.g., LGBTQ+ Pride month, Juneteenth), hiring diverse staff, or supporting identity-based groups and organizations. Meaningful intervention that sends

clear messages that all people are welcome in the community and that community relationships are important may facilitate changes at the macrosystem level.

If rural systems make requisite changes and rural residents are able to utilize advocacy and activism to make their communities safe, satisfying, and welcoming for all residents, this may also change perceptions of rurality over time. The importance of perceptions of rurality identified in the current study also highlights the importance of making sure that, where it exists, information that contradicts negative rural stereotypes is made readily available (e.g., a meaningful proportion of rural residents adhere to some liberal political beliefs, KFF, 2017; activism exists in support of LGBTQ+ rights within rural communities, Barton & Currier, 2020).

Finally, implications for training of counseling psychologists can be drawn in order to further support the mental health of rural residents. First, given the importance of experiences within place and community identified by the current study, it is important for practitioners to have an understanding of the community they are working in. Given the increase in telehealth service provision resulting from the COVID-19 pandemic (Appleton et al., 2021), there is increased opportunity for providers to work with clients who live in communities different from themselves. This creates an additional challenge for providers working with rural clients, and training that emphasizes the importance of knowledge and understanding of a rural client's community could help prepare counseling psychologists for addressing this need. Given the apparently minimal inclusion of rurality as an aspect of multiculturalism (e.g., no reference to geographic location or rurality in Hays' [2016] ADDRESSING model; no dedicated discussion or chapter in Sue & Sue, 2016), intentional efforts will be required for counseling

psychology training programs to include education on the unique experiences, strengths, and needs of individuals in rural areas.

Taken together, the results of the current study offer implications that may improve the quality of life across rural residents. Those who have strong attachment to their community, enjoy strong PSOC, and generally view rurality positively are least in need of the interventions described above. However, people may live in rural areas who do not experience strong PSOC and place attachment for a variety of reasons. Individuals may choose to live rurally because they value certain aspects of rurality despite feeling excluded or experiencing discrimination (e.g., Kennedy, 2010; Plastow, 2010), and others may remain in their community by necessity rather than choice despite viewing rurality negatively and feeling ambivalent about their community. For both of these groups, interventions to increase place attachment and PSOC, mitigate the effects of being minoritized, and reduce the prevalence of discrimination are particularly important.

Contributions to the Field

The current study contributes to a greater understanding of rural residents' experiences with community by filling several notable gaps in the literature. First, the current study was the first to the author's knowledge to quantitatively measure place attachment, PSOC, belonging, and mental health outcomes together in any population. Second, the current study is also the first to the author's knowledge to utilize the Positive and Negative Images of Rurality subscales (Theodori & Willits, 2019). Studying negative perceptions of rurality among a current sample of rural residents, independent of their plans to move away, is also an important contribution as much of the literature on negative perceptions of rurality samples those who have moved away from rural areas or

are planning to do so (see Rupasingha et al., 2015; Ulrich-Schad, 2016 for exceptions) and thus may be more inclined to view rural areas negatively. No previous research could be identified that measured outcomes of place attachment in a rural sample or that explored relationships between place attachment and mental health outcomes. Finally, a significant gap in the literature is also present for quantitative explorations of belonging among rural populations, which this study captured.

In addition to working to fill specific gaps in the literature, the current study also contributes to research on rural populations in the United States more broadly. Many qualitative studies exploring intersectionality with rural populations (e.g., BIPOC, refugees, LGBTQ+ populations) were conducted in other countries, such as Scotland (Plastow, 2010), Australia (Wilding & Nunn, 2018), Denmark (Herslund, 2021), and Canada (Caxaj & Gill, 2017; Kennedy, 2010). In addition, several of the quantitative studies that informed hypotheses for the current study (e.g., Anton & Lawrence, 2014; Kulig et al., 2018; Wilkinson, 2008) were conducted in other countries as well (Australia and Canada). Given that 20% of the U.S. population lives in rural area (U.S. Census Bureau, 2022), the relative difficulty in locating research on variables of interest among rural U.S. populations is of concern.

The current study contributes to the field of counseling psychology specifically through implications that are consistent with counseling psychology values. In particular, a focus on equity for minoritized populations within rural areas is consistent with counseling psychology's value of social justice and advocacy (DeBlaere et al., 2019; Speight & Vera, 2008). Further, the study furthers an understanding of experiences of rural populations, which may be considered a contribution in alignment with the value of

multiculturalism diversity (e.g., Lichtenberg et al., 2018; Vera & Speight, 2003) as several conceptualizations of identity and culture include geographic location (Sue & Sue, 2016) or location of residence (D'Andrea & Daniels, 1997) as a component. Finally, results of the study support the importance of health promotion, another value of counseling psychology (Altmaier & Ali, 2012). Across analyses, the variables of interest in the current study were more strongly related to well-being than distress; within a field that values health promotion and not solely amelioration of distress, these results are valuable in their own right.

Limitations and Future Directions

There are several significant limitations to the current study that should be considered. First, given significant difficulty obtaining the intended sample size of 200 resulting in a final sample of 95 participants, PROCESS (Hayes, 2018) analyses are likely underpowered. Because of this, there is a risk that hypothesized relationships determined to be not significant may be significant if the analyses had sufficient power. An additional limitation to the sample is the use of snowball sampling which resulted in a sample that is not representative of rural U.S. populations, limiting generalizability. In particular, self-selection into the study may have impacted results, such that those with strong opinions (either positive or negative) or connections (close or distant) with the author chose to complete the study. Limitations of self-selection are evidenced by the predominance of participants from geographic areas where the author has personal connections (i.e., Nebraska, Missouri) despite disseminating information about the study to a much wider geographic area. These difficulties likely reflect challenges within rural research more broadly, such that mistrust of "outsiders" is a frequent cultural

phenomenon (e.g., Collins et al., 2017). In the current sample, despite specific efforts to recruit a racially and ethnically diverse sample, representation of BIPOC in the current sample was very minimal and prevented within-group comparisons such as those conducted for sexual orientation. Further, the median age for the current sample (36 years) is notably below the median age for the rural U.S. population (51 years; U. S. Census Bureau, 2016).

While sampling across rural areas may facilitate a general understanding of the relationships among variables, sampling rural residents broadly rather than a specific rural area likely obscures important differences. Previous researchers have underscored the variability across rural areas in demographics, culture, strengths, and challenges (Johnson, 2017; McCord et al., 2015). Future research could inform community-specific interventions by examining the study variables within a given community in order to address community-level differences obscured in the current study. Alternatively, collecting sufficient data from several communities would allow for comparisons across groups to further identify community-specific differences. In response to limitations noted above, considering the importance of building trust with potential participants through personal relationships within the community or through local connections with trusted and long-standing community members would likely be helpful in future research taking this approach.

The current study may have also been hindered by the inclusion of measures with limited use in research (i.e., perceptions of rurality and place attachment measures) where robust reliability, validity, and factor structure information is not available. It is possible that these limitations increased the risk of measurement error, which may have obscured

actual relationships amongst variables. In addition, PROCESS (Hayes, 2018) is unable to determine causality, and placement of variables in the model is based on previous research and theory.

Finally, the use of Bronfenbrenner's (1979) ecological systems theory may have limitations for understanding rural communities. In particular, although Bronfenbrenner describes that different groups within larger societies have unique macrosystems, this is somewhat challenging to apply to diversity within rural areas. While a rural macrosystem might be considered a specific "systems blueprint" (Bronfenbrenner, 1979, p. 26) within the larger United States society, it is clear both from previous research and the current study that experiences within rural communities are different across identities and minoritized status. Given this, it may provide a more accurate representation of intersectional experiences within rural communities to consider, for example, an LGBTQ+ rural macrosystem or a Hispanic rural microsystem. This would be a cumbersome and complicated system, however. Taken together, Bronfenbrenner's ecological systems theory may leave gaps in creating both a meaningful and concise understanding of rural intersectionality.

Results of the current study contextualized within previous literature offer several suggestions for future research. First, further exploring the relationship between age and perceptions of rurality and place attachment would be helpful given the aging rural population (Johnson, 2017). An exploration of developmental processes that may be associated with increasing positive perceptions of rurality and place attachment may be informative in guiding interventions across ages.

Second, given the limited research utilizing the perceptions of rurality measure as well as associations with variables in the current study, further research on this construct is warranted. An exploration of individual differences (e.g., political beliefs, multicultural orientation, understanding and acknowledgement of privilege and discrimination) that may be related to this construct may be informative. In addition, future research could explore factors that lead to staying in rural areas despite a generally negative view of rurality. Questions may involve the role of family connections, financial constraints, and employment, among others. An exploration of potential moderators of the path between perceptions of rurality and place attachment in the simple mediation model supported by the current study may lead to identifying interventions to support such populations.

Finally, research is needed to examine the efficacy of interventions targeting place attachment and PSOC. This research is limited for both PSOC (O'Connor, 2013) and place attachment (Stefaniak et al., 2017). Research exploring intrapersonal differences that may contribute to PSOC and community involvement (e.g., personality traits, mental health symptoms) that may offer additional implications for intervention at the level of individual psychotherapy was also limited. In addition, community-level interventions that were identified in the literature measured PSOC and place attachment as outcomes, and it is unclear whether interventions would affect mental health outcomes as predicted by results of the current study.

Conclusion

Results of the current study underscore the importance of conducting research in rural areas. Living in a rural area involves a unique set of values (e.g., Smalley & Warren, 2012), interpersonal interactions (e.g., Collins et al., 2017), and access to

resources (e.g., Cromartie et al., 2015). In order to understand geographic location as a component of multicultural diversity (D'Andrea & Daniels, 1997), exploring the distinct experiences within rural communities is imperative. The current study contributed to the gap in counseling psychology research on rural populations by exploring the relationships among experiences with community, place, and mental health.

The rural residents who participated in the current study reported negative perceptions of rurality, such as low acceptance of diversity and close-mindedness, as well as positive perceptions, such as peacefulness and neighborliness. Not only did the current study give voice to rural residents regarding how they see rurality, rather than relying on stereotypes and assumptions (e.g., Lichter & Brown, 2011), results indicated that these perceptions are related to well-being through place attachment. In addition, results also supported the effect of place attachment on both well-being and distress through PSOC and belonging. Thus, it is not just experiences in social and interpersonal relationships (i.e., PSOC and belonging), which are likely unique in rural areas (e.g., Obst et al., 2001), but also experiences with place that are associated with mental health.

The current study also contributes to an understanding of multicultural diversity and experiences of oppression within rural areas. Results were consistent with findings from previous qualitative research regarding experiences of homophobia (e.g., Kennedy, 2010; Paceley et al., 2017) and transphobia (e.g., Smith et al., 2018) in rural areas. Both heterosexual and sexual minority participants recognize their community's climate as tolerant at best, and hostile at worst, toward LGBTQ+ individuals. Similarly, the predominantly White sample identified their communities as only tolerant, not accepting or supportive, of BIPOC. Beliefs that tend to be more conservative than in urban areas

(KFF, 2017), as well as lower population density that may limit access to individuals with similar identities (e.g., Paceley et al., 2017), are aspects of rurality that are important to understanding experiences of individuals with minoritized identities in rural communities; a one-size-fits-all approach may not be most appropriate.

Finally, the current study also supports the utility of Bronfenbrenner's ecological systems theory (1979) in understanding the experiences of rural residents. Microsystems, such as work, school, and community organizations, offer a range of opportunities for building a sense of community. A sense of belonging, however, is more general and may better reflect the mesosystem, or interactions among microsystems (e.g., low SES families perceiving their children are treated differently in school, immigrant agricultural families excluded from community events as a result of irregular work schedules; Caxaj & Gill, 2017; Sherman & Sage, 2011). Finally, perceptions of rurality likely reflect the macrosystem, such as the beliefs of one's immediate community, the influence of stereotypes held by non-rural communities, and demographic and physical aspects of place. Results of the current study reflect the importance of variables at each of these levels; PSOC, belonging, and perceptions of rurality were all predictors or mediators of mental health outcomes.

Taken together, results of the current study highlight the importance of cognitive (e.g., perceptions of rurality) and emotional (e.g., place attachment and PSOC) connections with rural place and community in predicting rural mental health. Reflecting on these results highlights potential interventions, including those at the community level and those focused on social justice, which may hold promise for supporting the mental health of rural residents across a range of identities and life experiences.

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APPENDICES

APPENDIX A

CONCEPTUAL MODELS

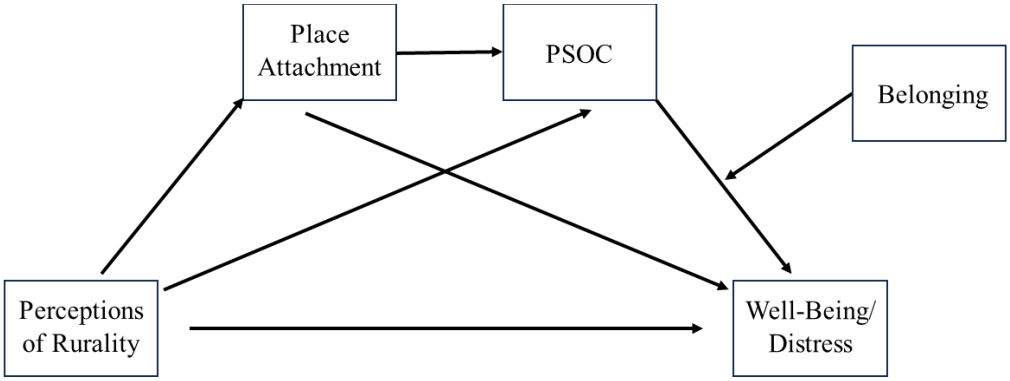

FIGURE 1
HYPOTHESIZED CONDITIONAL MEDIATION MODEL

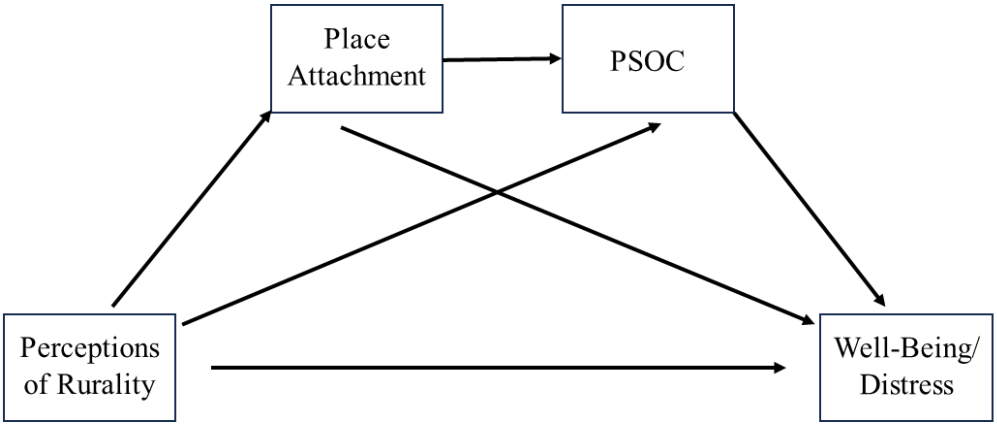

FIGURE 2
HYPOTHESIZED SERIAL MEDIATION MODEL

APPENDIX B

POSITIVE IMAGES OF RURALITY SUBSCALE

Please indicate the degree to which you agree or disagree with the following statements.

1 = strongly disagree
2 = disagree
3 = undecided
4 = agree
5 = strongly agree

1. Rural areas have more peace and quiet than do other areas.
2. Rural life brings out the best in people.
3. Rural families are more close-knit and enduring than are other families.
4. Neighborliness and friendliness are more characteristic of rural communities than other areas.
5. Life in rural communities is less stressful than life elsewhere.
6. Rural communities are the most satisfying of all places to live, work, and play.
7. Because rural life is closer to nature, it is more wholesome.
8. There is less crime and violence in rural areas than in other areas.
9. Rural people are more likely than other people to accept you as you are.

APPENDIX C

NEGATIVE IMAGES OF RURALITY SUBSCALE

Please indicate the degree to which you agree or disagree with the following statements.

1 = strongly disagree
2 = disagree
3 = undecided
4 = agree
5 = strongly agree

1. Rural people are crude and uncultured in their talk, actions, and dress.
2. Rural life is monotonous and boring.
3. Living in rural areas means doing without the good things in modern society.
4. Rural people are suspicious and prejudiced toward anyone not like themselves.
5. Rural communities provide few opportunities for the individual to get ahead in life.
6. Rural people are closed-minded in their thinking.
7. Rural communities provide few opportunities for new experiences.

APPENDIX D

BRIEF SENSE OF COMMUNITY SCALE

Thinking about the town or community you currently live in as a whole (not just your immediate street or neighbors), please indicate the extent to which you agree or disagree with the following statements.

1 = strongly disagree
2 = disagree
3 = undecided
4 = agree
5 = strongly agree

1. I can get what I need in this neighborhood.
2. This neighborhood helps me fulfill my needs.
3. I feel like a member of this neighborhood.
4. I belong in this neighborhood.
5. I have a say about what goes on in my neighborhood.
6. People in this neighborhood are good at influencing each other.
7. I feel connected to this neighborhood.
8. I have a good bond with others in this neighborhood.

APPENDIX E

PLACE ATTACHMENT SCALE

Please think about how you feel about the local area and community in which you currently live and indicate the extent to which you agree or disagree with each of the following statements.

1 = strongly disagree
2 = disagree
3 = undecided
4 = agree
5 = strongly agree

1. I miss this place when I am not here.
2. I feel foreign here.
3. I feel safe here.
4. I am proud of this place.
5. This place is part of me.
6. I would like to move out from this place.
7. I want to be engaged in its affairs.
8. I am rooted here.
9. I would like my family and friends to live here in the future.

APPENDIX F

GENERAL BELONGINGNESS SCALE

Thinking about your relationships with other people overall, please indicate the extent to which you agree or disagree with the following statements.

1 = strongly disagree
2 = disagree
3 = slightly disagree
4 = undecided
5 = slightly agree
6 = agree
7 = strongly agree

1. When I am with other people, I feel included.
2. I have close bonds with family and friends.
3. I feel like an outsider.
4. I feel as if people do not care about me.
5. I feel accepted by others.
6. Because I do not belong, I feel distant during the holiday season.
7. I feel isolated from the rest of the world.
8. I have a sense of belonging.
9. When I am with other people, I feel like a stranger.
10. I have a place at the table with others.
11. I feel connected with others.
12. Friends and family do not involve me in their plans.

APPENDIX G

FLOURISHING SCALE

Below are eight statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

1 = strongly disagree
2 = disagree
3 = slightly disagree
4 = mixed or neither agree nor disagree
5 = slightly agree
6 = agree
7 = strongly agree

1. I lead a purposeful and meaningful life.
2. My social relationships are supportive and rewarding.
3. I am engaged and interested in my daily activities.
4. I actively contribute to the happiness and well-being of others.
5. I am competent and capable in the activities that are important to me.
6. I am a good person and live a good life.
7. I am optimistic about my future.
8. People respect me.

APPENDIX H

KESSLER PSYCHOLOGICAL DISTRESS SCALE

The following questions ask about how you have been feeling during the past 30 days. For each question, please select the answer that best describes how often you had this feeling.

1 = all of the time
2 = most of the time
3 = some of the time
4 = a little of the time
5 = none of the time

During the last month, how often did you feel:

1. Tired out for no good reason?
2. Nervous?
3. So nervous that nothing could calm you down?
4. Hopeless?
5. Restless or fidgety?
6. So restless that you could not sit still?
7. Depressed?
8. So depressed that nothing could cheer you up?
9. That everything was an effort?
10. Worthless?

APPENDIX I

DEMOGRAPHIC QUESTIONNAIRE

Please answer the following questions.

1. What is your age in years? _____
2. Which best represents your race/ethnicity?
    a. Asian or Asian American
    b. Biracial or multiracial
    c. Black or African American
    d. Hispanic or Latinx
    e. Middle Eastern or North African
    f. Native American or Alaska Native
    g. Native Hawaiian or Pacific Islander
    h. White or European American
    i. A race/ethnicity not listed here (please specify):_____
3. What is your gender identity?
    a. Woman
    b. Man
    c. Non-binary
    d. Genderqueer

e. A gender identity not listed here (please specify): _____

4. What is your sexual identity?
    a. Asexual
    b. Bisexual
    c. Gay/Lesbian
    d. Heterosexual/Straight
    e. Pansexual
    f. Queer
    g. An orientation not listed here (please state):_____
5. What is your current relationship status?
    a. Married
    b. Separated
    c. Divorced
    d. Widowed
    e. Single (not dating)
    f. Dating
    g. Domestic partnership
    h. A relationship not listed here (please state):_____
6. Are you currently raising children 18 years old or younger?
    a. Yes
    b. No
7. Please select the highest level of education you have completed.

a. Did not complete high school
b. High school diploma or GED
c. Some college
d. Associate degree
e. Bachelor's degree
f. Master's degree
g. Doctorate
h. Professional degree

8. Please select the financial situation that best describes your household.
    a. At the end of the month, there is more than enough money left over after paying for the very basics like food, housing, medical care, and utilities.
    b. At the end of the month, there is some money left over after paying for the very basics like food, housing, medical care, and utilities.
    c. At the end of the month, there is just enough money to make ends meet and pay for the very basics like food, housing, medical care, and utilities.
    d. At the end of the month, there is not enough money to make ends meet and pay for the very basics like food, housing, medical care, and utilities.
9. What is your ZIP code? (This information will only be used to calculate the population density of where you live.)
10. What state do you live in? _____
11. What county do you live in? _____
12. Do you live in an unincorporated area (a region or area without a local municipal government)?

a. Yes

b. No

13. What is the approximate population of the town/community you live in or the town/community nearest you? _____

14. How long have you lived in your current town/community in years? _____

15. Approximately how many years have you lived in any rural area? _____

16. Did you live in a rural area as a child?

a. Yes

b. No

APPENDIX J

SCREENING QUESTIONS

1. Are you 18 years of age or older?
    a. Yes
    b. No
2. Do you currently live in the United States?
    a. Yes
    b. No
3. Which of the following most closely describe the area you live in?
    a. Rural (sparsely populated or community of less than 2,500)
    b. Small town (approximate population of 2,500-25,000)
    c. Large town (approximate population of 25,000-50,000)
    d. City (approximate population of more than 50,000)

APPENDIX K

DEMOGRAPHIC DATA

TABLE 1
DEMOGRAPHIC CHARACTERISTICS

Variable	*n* (%) / Mean (*SD*)
Racial/Ethnic Identity	
Asian/Asian American	1 (1%)
Biracial/ Multiracial	2 (2%)
Black/African American	4 (4%)
Hispanic/ Latinx	3 (3%)
Native American/Alaska Native	4 (4%)
Native Hawaiian/Pacific Islander	2 (2%)
White	85 (89%)
Gender Identity	
Man	13 (14%)
Nonbinary	3 (3%)
Woman	80 (84%)
Other	1 (1%)
Sexual Identity	
Asexual	7 (7%)
Bisexual	11 (11%)
Gay/ Lesbian	2 (2%)
Pansexual	1 (1%)
Queer	3 (3%)
Straight/ Heterosexual	72 (76%)
Other (Questioning)	1 (1%)
Relationship Status	
Married	60 (63%)
Separated	1 (1%)
Divorced	4 (4%)
Widowed	3 (3%)
Single (Not dating)	7 (7%)

Dating	13 (14%)
Domestic partnership	5 (5%)
Other (Cohabiting)	2 (2%)
Currently Raising Children < 18	
Yes	40 (42%)
No	55 (58%)
Highest Level of Education	
HS Diploma/GED	14 (15%)
Some college	12 (13%)
Associate's degree	10 (11%)
Bachelor's degree	23 (24%)
Master's degree	26 (27%)
Doctorate	7 (7%)
Professional Degree	3 (3%)
SES	
More than enough money left over after paying for basics	27 (28%)
Some money left over after paying for basics	40 (42%)
Just enough money to pay for basics	23 (24%)
Not enough money to make ends meet	5 (5%)
Rural Childhood Background	
Yes	83 (87%)
No	11 (12%)
Live in Unincorporated Area	
Yes	15 (16%)
No	68 (72%)
Unsure	11 (12%)
State of Residence	
Alabama	2
Arkansas	4
Georgia	2
Illinois	6
Minnesota	1
Mississippi	1
Missouri	30
Nebraska	31
New York	5
Ohio	5
South Dakota	1
South Carolina	1
Tennessee	1
Virginia	1

West Virginia	2
Age	39.4 (15.4)
Years in Current Community	19.1 (17.3)
Approximate Population	7,342 (7,407)
Population Density	134 (379)
Percentage of County Classified Rural	55.8 (25.2)