Monoculturals and Biculturals: Similarities and Differences in Health and Social Outcomes

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Abstract

Social Identity Theory posits that social identities (cultural identities in particular) are critical to individual's self-concepts, often predicting relative costs and benefits in terms of social and health outcomes. In accordance with this theoretical framework, we aimed to explore psychosocial outcomes for monocultural and bicultural individuals. We conducted an online survey at Stony Brook University, collecting data from 339 undergraduates about their cultural identification, social behaviors, and mental and physical health outcomes. The results of our exploratory study, analyzed via hierarchical regression, indicated that there were no significant differences between monoculturals and biculturals in terms of mental and physical health. However, there were significant differences between these groups in regards to desired intergroup contact, indicating that biculturals and individuals with high identity mismatch exhibited a higher propensity for intergroup contact than monoculturals and those with low identity mismatch, respectively. Accordingly, beyond the impact of maintaining multiple cultural identities and strength of identity, identity mismatch plays a significant role in psychosocial outcomes.

Keywords: biculturalism, mental health, intergroup contact

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Globalization has increased the diversity of nations as well as increased and strengthened contact between individuals from different home countries. In the U.S., in particular, the number of individuals who identify with a historical minority group (e.g., Hispanic) has dramatically risen from 2000 to 2010, in some cases by 43.3% (in the case of Asians; U.S. Census Bureau, 2010). This staggering increase in minority group identification demonstrates the growing importance of cultural identification, and in some cases, an increase in intergroup contact between majority and minority groups within our society at large.

Furthermore, the number of individuals who classify themselves as belonging to more than one race has also dramatically increased in most recent years (US Census Bureau, 2010). For instance, “the proportion of whites who reported more than one race grew by 37 percent (from 2000 to 2010)” (US Census Bureau, 2010, p. 3). This near exponential increase in the number of biculturals (individuals with two cultural identities) and multiculturals (individuals with three or more cultural identities) demonstrates a growing population of individuals who can identify with multiple cultural communities and peoples. As such, this increase in bicultural and multicultural identification could lead to increased tolerance and positive intergroup relations or to negative outcomes (e.g., with respect to mental health and physical well-being) due to greater identity-related stress of maintaining multiple identities. Accordingly, there is a great need to study potential similarities and differences in health and social outcomes among monoculturals, biculturals, and multiculturals. The present study is an exploratory investigation of the similarities and differences between monoculturals, biculturals, and multiculturals, particularly pertaining to social and health outcomes

Social Identification

Social Identity Theory, considered the cornerstone of several major subfields within social psychology, posits that an individual's membership in a relevant social group is an integral component of his or her self-concept (Tajfel & Turner, 1979). Social identity provides an avenue through which individuals can characterize themselves as part of a group, such as a cultural community, promoting feelings of social belonging and distinction from other groups displaying differing characteristics (Tajfel, 1974). Further expounding on *Social Identity Theory* (Tajfel & Turner, 1979), Ashmore and colleagues (2004) supported the claim that individuals self-identify as part of a categorical membership shared by individuals who exhibit a set of common characteristics, highlighting an individual's relationship with his or her social identity (Ashmore et al., 2004). Additionally, these theories stress the importance of an individual's ability to self-identify with a specific group as opposed to being prescribed to a social identity by a third party (Phinney, 1992).

Moreover, strength of social identity, and therefore, the level of perceived social belonging to a group with which one identifies, has been determined to impact an individual both socially and emotionally (Luhtanen & Crocker, 1990). For instance, if an individual highly identifies with his cultural identity, he may then perceive himself as being closely tied to his cultural group, leading to a direct link between his personal self-esteem and the self-esteem of his cultural group (Luhtanen & Crocker, 1992). As determined by Ethier and Deaux (1990), strength of cultural identity is significantly predicted by several factors, including the language spoken in the home, the cultural diversity of the neighborhood, and the percentage of a student's friends who belonged to the same cultural group.

Multiple Cultural Identities at Work

Individuals who are members of more than one cultural group do not necessarily embrace all of their identities to the same degree. They may strongly identify with one identity and weakly identify with another. In the same vein, these individuals may only feel that they belong to some, but not all, of their respective cultural groups. At the same time, members of the cultural groups to which they perceive they belong may not accept them as fellow group members due to their cultural identity intricacies. Thus, social identification is a complex issue for biculturals and multiculturals.

Accordingly, Roccas and Brewer (2002) use the term social identity complexity to reflect an individual's view of the interrelationships amongst his or her multiple group identities. The degree to which an individual perceives his or her social identities as compatible (Roccas & Brewer, 2002) can have long-term consequences for him or her, such as social and health benefits and consequences. Similar to multiculturals' experience of social identity complexity, a construct that more generally refers to the interrelationships and degree of congruence between multiple social identities (Roccas & Brewer, 2002), biculturals experience identity integration, which relates to the integration or compatibility of their two cultural identities. In effect, both social identity complexity and identity integration are measures of inter-identity compatibility (Benet-Martinez, Lee & Leu, 2006) that propagate social and health benefits and consequences for bicultural and multicultural individuals, emphasizing the importance of identity congruence and compatibility. For instance, individuals with high congruence between identities (or low social identity complexity) demonstrated less tolerance toward outgroups, and therefore, exhibited a lower propensity for intergroup contact than did those with high social identity complexity (Brewer & Pierce, 2005). In the same vein, the match or mismatch between one's

perceived cultural identification and the external cultural categorizations imposed on the individual may differentially affect the ways in which biculturals and multiculturals view their own cultural identity, similarly influencing social and health outcomes.

Further, the degree to which an individual demonstrates identity integration (termed identity compatibility in our current work) has various, critical implications for him or her. In essence, those with high identity integration deem their identities, and subsequently, ingroups (i.e. majority and minority identities), as compatible. More generally, biculturals with highly integrated cultural identities experience feelings of identity congruency or positivity, while those with low identity compatibility may experience identity conflict, and consequently, negativity (Cheng, Lee & Benet-Martinez, 2006; Haritatos & Benet-Martinez, 2002). As such, these differences in individuals with high and low identity compatibility, respectively, may have implications for individuals in terms of mental and physical health outcomes, as these processes relate to positive and negative internal states. Identity compatibility also impacts social network structure (Mok, Morris, Benet-Martínez, & Karakitapoglu-Aygun, 2007) and adjustment (Chen, Benet-Martinez & Bond, 2008), such that those with high identity compatibility will have larger social structures and better adjustment compared to those with identity conflict. Conversely, individuals with highly integrated identities are significantly more likely to rate their personalities as similar to that of both of their ingroups (i.e., group members who share the same cultural identity) as well as perceive their two ingroups as similar (in personality) to one another, indicating potential preferential treatment for one's ingroup and negatively impacting cross-cultural contact (Miramontez, Benet-Martinez, & Nguyen, 2008). In sum, the degree to which one experiences identity compatibility, similar to complex social identity, has emotional and social implications for bicultural individuals.

As demonstrated by the aforementioned literature, identity compatibility and integration have been primarily conceptualized as the consequence of the simple and direct relationship between an individual's multiple cultural identities. However, in the same vein, there are uninvestigated constructs, which may play a key role in social and health outcomes of individuals. In this exploratory study, we examine two constructs: (1) the conflict between identities due to majority or minority status of each respective identity; and (2) the identity mismatch that demonstrates the differences between self-identification, genealogical origins, and the external categorization of an individual. Both of these constructs, although conceptually different from social identity complexity and identity compatibility, rely on the same foundational premise of harmony and conflict between identities, and therefore, may hold similar implications for health and social outcomes. Additionally, these newly founded constructs may provide some clarity for a literature, which historically has captured the cultural identification of individuals with two or more identities in a variety of ways (e.g., both Chinese-Americans (immigrants) and Chinese-Iranians (second-generation) may both be deemed bicultural, and therefore, comparable in different studies of culture), remaining inconsistent through the literature. Objective measures of cultural identification and of identity mismatch for individuals with multiple cultural identities is needed for future work in this field of research.

Biculturalism and Health Outcomes

As demonstrated by seemingly contradictory findings in research on biculturalism (dual culturalism) and multiculturalism, the development and maintenance of multiple social identities may incur either positive or negative psychosocial outcomes. A substantial body of work supports the claim that bicultural and multicultural individuals experience unique stressors, leading to poorer social, physical and mental health outcomes. As demonstrated by both Lane

(1992) and Padilla (2006), adapting to a multicultural society may incur feelings of loneliness and poor accommodation, leading to maladaptive psychosocial adjustment. Additionally, although partially debunked for its lack of empirical evidence, the marginal-person model (Park, 1928), the theory underlying biculturals' and multiculturals' feelings of marginalization due to their lack of societal and ingroup inclusion, endured for nearly half a century as a primary explanation for bicultural and multicultural individuals' negative psychosocial outcomes (Padilla, 2006). However, although little empirical evidence has been found to support the marginal-person model, recent findings indicate that Latino and Asian-American youth experience greater depressive symptoms, less optimism, and are more prone to risky behaviors primarily due to their bicultural identity, after controlling for the effects of ethnicity, socioeconomic status, gender and age (Romero, Carvajal, Valle, & Orduna, 2007; Romero, Martinez & Carvajal, 2007). In sum, notwithstanding the widespread lack of extensive empirical evidence for the aforementioned theories and conclusions, it is clear that, under some circumstances, individuals with multiple identities may be more prone to poorer psychosocial outcomes than are monocultural individuals.

Contrary to claims in previous research that individuals with two or more cultural identities are emotionally maladapted in comparison to monoculturals, recent work maintains that, under certain circumstances, individuals with multiple cultural identities can be as mentally and socially adjusted as monoculturals. According to LaFramboise and colleagues (1993), bicultural individuals who maintain groundedness (the development of social networks as a buffer to adaptation-related stress) show signs of better physical and mental health than do biculturals who do not exhibit groundedness. Furthermore, biculturals with high identity compatibility exhibit better psychosocial outcomes during the cultural adaptation process than do individuals with low

identity compatibility (Chen, Benet-Martinez & Bond, 2008). A theoretical explanation for this finding is simply that individuals with highly integrated cultural identities deem their identities as compatible, and therefore, experience internal resolution, opposed to conflict, as aforementioned. As such, individuals with low identity compatibility may show signs of negative psychosocial outcomes due to several cultural identity-derived factors (e.g., cultural homelessness and cultural identity confusion) that may also be partially explained by related constructs, such as identity mismatch (Schwartz, Zamboanga, Rodriguez, & Wang, 2007; Vivero & Jenkins, 1999).

Furthermore, some evidence suggests that bicultural and multicultural individuals develop a cognitive flexibility that enables them to cope with the negative byproducts of cultural adaptation (Benet-Martinez et al., 2006; Tadmor & Tetlock, 2006). According to Berry (1997), biculturalism has been positively associated with greater effectiveness and achievement as well as improved adaptation. A meta-analysis of 83 studies demonstrated that bicultural individuals exhibit greater psychological and sociocultural adjustment than do monoculturals, debunking previous, contrary accounts, which cited the unique stresses of cultural dualism and acculturation processes (Nguyen & Benet-Martinez, 2013).

In sum, despite prior claims that all bicultural and multicultural individuals experience negative mental health outcomes due to issues of cultural adaptation and marginalization, empirical evidence suggests that identity-related factors, such as identity integration, compatibility, or conflict, best predict psychosocial outcomes. In order to further investigate the conflicting accounts of multiple identity maintenance on mental and physical health, the present investigation explores the health and social outcomes of bicultural and multicultural individuals during college, a critical period in cultural identity formation and development. As

aforementioned, majority-minority identity status and identity mismatch (reflecting differences in internal and external identification and categorization) have not yet been studied in the context of comparative health outcomes (i.e., self-esteem, anxiety, depression, and physical well-being) of monocultural and bicultural individuals. As such, we seek to study these constructs in the context of complex cultural identification and its relation to primary health outcomes.

Multiple Cultural Identities and Propensity for Intergroup Contact

Although maintaining two (bicultural) or more (multicultural) cultural identities may result in short- and- long-term negative consequences for individuals' mental health outcomes, there is evidence to suggest that those with multiple identities may have an increased propensity for contact with outgroup members (i.e., individuals who do not have a shared cultural identity with the target individual). Individuals with multiple and less compatible social identities exhibit higher tolerance as well as positive affect and attitudes toward racial outgroup members (Brewer & Pierce, 2005; Miller, Brewer & Arbuckle, 2009). In the same vein, biculturals with high identity compatibility had larger, more developed outgroup social networks (e.g., the extent of friendship in terms of acquaintances and close relationships) than did individuals with low identity compatibility (Mok et al., 2007). Particularly when individuals are part of an ingroup on one dimension of their complex identity (e.g., majority member), but are categorized as an outgroup on another dimension (e.g., minority member), they are more likely to demonstrate positive evaluations of outgroup members to resolve cognitive inconsistencies (Brewer & Pierce, 2005) and to maintain cognitive balance (Newcomb, 1963). Perceived sense of social belonging, although briefly considered, will not be investigated as a potential mediator of this effect. Consistent with previous findings and investigations of identity compatibility and social outcomes, we seek to explore the effects of identity mismatch and majority-minority status on

propensity for intergroup contact for individuals with seemingly complex cultural identities.

Overview of the Present Investigation

Research findings regarding the positive and negative consequences associated with the complex cultural identification of individuals with two or more cultural identities have not remained clear and consistent throughout the literature. In many contexts, bicultural and multicultural individuals have been found to be more prone to negative physiological, and emotional outcomes, yet in other circumstances, evidence has been found to suggest that biculturals and multiculturals are more well-adjusted (compared to monoculturals) due to cognitive benefits of maintaining multiple cultural identities. Furthermore, many of the demonstrated psychosocial effects experienced by biculturals and multiculturals may be partially explained by individuals' (1) strength of cultural identification and (2) identity conflict (which also may be measured by majority-minority status and identity mismatch). As such, we hypothesize that, with each additional cultural identity (e.g., multiculturals versus biculturals and biculturals versus monoculturals), individuals will be more prone to negative health outcomes: poor physical health, lower levels of self-esteem, higher levels of anxiety and high levels of depression. Additionally, we hypothesize that increased identity conflict (i.e., identity majority-minority status and identity mismatch) will have a negative impact on physical and mental health outcomes.

Furthermore, research has shown that individuals with multiple cultural identities have a higher propensity for intergroup contact (in comparison to monocultural individuals). These prosocial behaviors may result from perceived identity incompatibility or identity mismatch and may act as a buffering mechanism to aid bicultural and multicultural individuals in coping with the negative effects of external identity miscategorization. As such, we expect that with each

additional cultural identity (monoculturals versus biculturals and biculturals versus multiculturals), individuals experience a greater propensity for intergroup contact, particularly when experiencing high conflict between their perceived identification and external identity categorization (i.e., high identity mismatch). We predict that biculturals will report greater comfort with outgroup members and more diverse social networks overall in comparison to monoculturals.

Testing these hypotheses at a culturally diverse, American university, such as Stony Brook University, is ideal due to the enhanced multicultural climate inherent in the fabric of American society and the critical period for social and cultural identity development that individuals experience during their adjustment to college. This sample is further enhanced by its inclusion of students from diverse cultural backgrounds, exhibiting a range of cultural identities (monocultural, bicultural, and multicultural).

In the current exploratory study, monocultural, bicultural and multicultural individuals at Stony Brook University were categorized based on their ancestral (i.e., lineage), perceived cultural identities, and external categorizations (i.e., Census categories). In a study primarily focusing on issues of cultural identity, individuals completed questionnaires regarding their cultural identification, strength of cultural identification, and health outcomes, as well as propensity for intergroup contact.

Method

Participants

Of the 339 Stony Brook University undergraduates (age: $M = 19.82$, $SD = 1.72$) who participated in the online study (59.9% of whom were women), there were 156 monocultural, 146 bicultural and 32 multicultural individuals (See Table 1 for racial breakdown). All of the

participants completed the survey online via *Qualtrics*, an established online survey builder. Participants were 331 undergraduates recruited from the psychology subject pool via SONA who completed the questionnaire for course credit and 8 undergraduates recruited from university student organizations who were given a chance to win 1 of 5 one hundred dollar gift cards.

Measures

Overview. With the exception of a demographic questionnaire from the census and a short lineage-based identity measure (at the beginning of the questionnaire), all other measures (in addition to the questions within them) were presented in a randomized order to minimize systematic order effects. Additionally, the online questionnaire was programmed to present only the questions relevant to the complexity of participants' cultural identities (regarding primary, secondary, and tertiary cultural identities). Moreover, autofill functions were employed to allow for customization of cultural identities for each individual as they completed identity measures. Finally, for measures with multiple items, the items were summed and averaged to create a composite score (See Table 2 for means, standard deviations and Cronbach's alphas of all composite outcomes measures by subgroup).

Cultural Identity Categorization. The following measures pertain to the categorization of individuals on the basis of cultural identity.

2010 Census Questionnaire. Participants first answered questions regarding their external cultural categorization (i.e., "Are you Hispanic, Latino, or of Spanish origin?" and "What is your race?"), all originating from the *2010 Census*. Both questions allowed participants to check multiple boxes corresponding to their racial identification (e.g., White or Asian).

Cultural Identity by Lineage. Next, participants responded to questions regarding their genetic make-up or origins based on their grandparents' cultural identities and current

immigration statuses (e.g., What is the cultural identity of your maternal grandmother? Status of maternal grandmother: Abroad (in home country or elsewhere), US immigrant, First-generation, Second-generation, Third-generation, In the US for more than 3 generations).

Identification with culture. Participants completed several measures, which examine the extent to which individuals identify with their respective cultures.

Strength of Cultural Identification. Strength of participants' perceived cultural identities (primary through tertiary) were assessed ($M = 6.90$, $SD = 1.63$) with a composite measure of 2 items (Cronbach's $\alpha = .70$: "How much do you identify with your primary culture?" (on a 9 point Likert scale) and "How warm do you feel toward your primary cultural group?" (on a thermometer scale from 0-100).

Identity Mismatch. Based on the cultural identity categorization and identification with culture questionnaires, measures of identity mismatch were calculated.

Cultural Identity Mismatch. First, to calculate perceived-genealogical identity mismatch, the absolute value of the number of perceived cultural identities (i.e., the cultural identities with which participants most greatly identify) were subtracted from the number of genealogical identities (i.e., the cultural background of participants' grandparents). Further, a dichotomous measure was coded based on the aforementioned calculation (0 = No identity mismatch, 1 = Identity mismatch).

Majority-Minority Status. Moreover, to assess mismatch between individuals' majority and minority member statuses, participants' census classifications were employed to categorize them into 3 groups (1 = Majority [white] cultural identities only, 2 = Mix of majority [white] and minority [non-white] cultural identities, 3 = Minority [non-white] cultural identities only).

Physical and Mental Health. Health outcomes, including physical health, self-esteem,

anxiety and depression, were assessed with the use of the following established measures.

Physical Health. Participants' physical health was evaluated with a basic health questionnaire, while emotional health was assessed with measures of self-esteem, anxiety and depression. The basic health evaluation ($M = 1.48$, $SD = .61$) included 4 items (e.g., "How many visits have you made to health services so far this semester due to ill health?") with frequency response items ranging from 1 = 0-2 times to 5 = 10+ (Cronbach's alpha = .44).

Self-Esteem. Rosenberg's (1965) *shortened Self-Esteem Scale*, consisting of 10-items (e.g., "I feel that I am a person of worth, at least on an equal plane with others") on a scale from 1 = *Strongly Disagree* to 7 = *Strongly Agree* (Cronbach's alpha = .91), was employed to assess participants' self-esteem ($M = 4.31$, $SD = 1.17$).

Anxiety. Additionally, participants were asked to complete the shortened *Generalized Anxiety Disorder (GAD)-7 Scale* (Spitzer et al., 2006), a 7-item scale (Cronbach's alpha = .91) focusing on the frequency of anxiety-related symptoms present in the last month (e.g., "Feeling nervous, anxious or on edge"), with frequency responses ranging from 1 = *Not at all* to 4 = *Nearly every day* ($M = 2.82$, $SD = .98$).

Depression. Finally, participants' relative levels of depression were evaluated with Radloff's (1977) shortened Center for Epidemiologic Studies Depression (CES-D) 10 Scale ($M = 2.57$, $SD = .64$), a 10-item measure (e.g., "I felt depressed.") with frequency responses scaling from 1 = *Rarely or None of the time (Less than 1 day)* to 4 = *Most or All of the time (5-7 days)* (Cronbach's alpha = .83).

Propensity for Intergroup Contact. Participants' propensity for intergroup contact was measured by two primary means.

Universality-Diversity Scale. Fuertes and colleagues' (2000) *Universality-Diversity*

Scale, originally adapted from the Miville Guzman Universality-Diversity Scale, consisting of 15 items with response options from 1 = *Strongly Disagree* to 6 = *Strongly Agree*, was used to evaluate participants' inclination towards engaging with individuals from diverse backgrounds. The Miville-Guzman Universality-Diversity Scale consists of three subscales, all of 5 items: Relativistic Appreciation ($M = 4.61$, $SD = .75$, Cronbach's $\alpha = .42$) (e.g., "Knowing how a person differs from me greatly enhances our friendship."), Diversity of Contact ($M = 4.51$, $SD = .88$, Cronbach's $\alpha = .83$) (e.g., "I would like to go to dances that feature music from other countries."), and Comfort with Differences ($M = 2.30$, $SD = .86$, Cronbach's $\alpha = .57$) (e.g., "I am only at ease with people of my race").

Behavioral Intentions Toward Outgroups. Additionally, Esses and Dovidio's (2002) established measure of Behavioral Intentions toward Outgroups was adapted and employed ($M = 5.74$, $SD = .81$) to assess participants' social distance with ingroup members (e.g., "Marry a non-[autofill culture] person (if I were single)") on a 12-item scale (Cronbach's $\alpha = .94$) with responses ranging from 1 = *Strongly Disagree* to 7 = *Strongly Agree*.

Demographics. Finally, participants completed basic demographic questions, including their age, gender, socioeconomic status, majors, minors, parental educational background, and current residential status, measured with scaled options except for questions regarding majors and minors, which were open-ended.

Procedure

The study, advertised as a survey regarding college interactions, was conducted online via *Qualtrics*, an online, scientific survey platform. Participants were provided with a web link via SONA or student organization advertisements, providing them the opportunity to complete the survey at any time from a personal computer during a predetermined one-month time period.

All survey responses were managed online by *Qualtrics*. Participants provided informed consent to partake in the study, but were only debriefed after the full completion of the study. Although the survey asked participants to provide their names and email addresses, this information was only used to administer payments for participation in the study. Identifiable information was removed before data cleaning and analyses.

Results

We conducted hierarchal regressions to model the predictive strength of the following variables in determining health and social outcomes (in order of importance): number of perceived identities, strength of primary identification, identity mismatch, majority-minority status, gender, and social and health outcomes. In accordance with previously conducted research in the literature, an individual's number of perceived identities (i.e., monocultural versus bicultural) and strength of cultural identification has demonstrated a strong effect on psychosocial outcomes. Additionally, we sought to test the predictive strength of identity mismatch and majority-minority status as we predict that these factors will impact health and social outcomes. Finally, we wanted to account for the influence of gender and other outcomes (i.e., social and health) on our measured variables, as these factors have historically been established as predictors of psychosocial outcomes in related literature. As such, in our hierarchal analysis model, the steps employed were the following (in order): (1) Number of perceived identities; (2) Strength of primary cultural identification; (3) Identity mismatch and Majority-Minority Status; (4) Gender; and (5) Social and Health Outcomes.

The following describes the results of the hierarchal analyses conducted, revealing significant predictors of health (i.e., self-esteem, physical health, anxiety, and depression) and

social (i.e., intergroup contact) outcomes. First, as predicted, identity strength ($\beta = 0.13, p < .05$), identity mismatch ($\beta = -0.15, p < .05$) and social outcomes, particularly behavioral intentions toward outgroups ($\beta = 0.14, p < .01$), all accounted for a significant proportion of variance ($p < .01$) in an individual's self-esteem (See Table 3). Second, of the selected measures, none were significant predictors ($p > .05$) of general or physical health (See Table 4). Third, contrary to hypotheses, anxiety was only significantly predicted by gender ($\beta = -0.23, p < .001$), which accounted for a significant proportion of its variance ($p < .001$; See Table 5). Finally, in line with a priori hypotheses, a significant proportion of variance ($p < .05$) in depression was accounted for by strength of primary identity ($\beta = -0.14, p < .05$), majority-minority status ($\beta = 0.16, p < .05$), and gender ($\beta = -0.14, p < .05$; see Table 6).

Additionally, for the purposes of the analysis of social outcomes, subscales of the Miville Guzman Universality-Diversity Scale (Fuentes et al., 2000), including Relativistic Appreciation, Diversity of Contact and Comfort with Differences, were analyzed individually along with the adapted Behavioral Intentions Toward Outgroups Scale (Esses & Dovidio, 2002), as they represent distinctive constructs. All health outcomes (i.e., physical health, self-esteem, anxiety, and depression) were included in the final step of this set of analyses. Contrary to a priori predictions, factors in our model were not significant predictors of all measures of propensity for intergroup contact. Results from regression analyses demonstrated that, of the measures selected, there were no significant predictors ($p > .05$) of relativistic appreciation (See Table 7). Further, diversity of contact was only significantly predicted by majority-minority status ($\beta = 0.15, p < .05$) and gender ($\beta = -0.22, p < .001$), although only gender accounted for a significant proportion of the variance ($p < .001$; see Table 8). However, in contrast, in line with hypotheses about tolerance for outgroups and propensity for intergroup contact, a significant proportion of

variance ($p < .05$) in comfort with differences was explained by strength of primary cultural identification ($\beta = 0.13, p < .05$), majority-minority status ($\beta = 0.20, p < .01$), gender ($\beta = 0.13, p < .05$), and health outcomes, specifically, self-esteem ($\beta = -0.19, p < .01$; see Table 9). Moreover, behavioral intentions toward outgroups was significantly accounted for ($p < .05$) by all predictors (to varying degrees), including: number of identities ($\beta = -0.02, p > .05$), strength of primary cultural identification ($\beta = 0.27, p < .001$), majority-minority status ($\beta = -0.22, p < .001$), identity mismatch ($\beta = 0.13, p < .05$), gender ($\beta = 0.10, p > .05$), and health outcomes, specifically self-esteem ($\beta = 0.23, p < .001$; see Table 10).

Discussion

There is a greater debate in the literature as to whether maintaining two or more cultural identities serves as a buffer or hindrance to individuals in determining their social and health outcomes. As demonstrated in previous work, bicultural and multicultural individuals, under certain circumstances, may experience both greater stress due to cultural adaptation processes and other cultural identity-related stressors (Lane, 1992; Padilla; 2006), leading to both negative health outcomes and a greater propensity for engaging prosocially with outgroup members compared to monoculturals (Brewer & Pierce, 2005; Miller, Brewer & Arbuckle, 2009; Mok et al., 2009). Furthermore, consistent with the aforementioned literature, it is also expected that majority-minority status and identity mismatch will significantly predict social and health outcomes (as those included in this exploratory investigation).

Although our hypotheses were consistent with the literature on social and health outcomes for bicultural and multicultural individuals, not all of our findings supported our hypotheses. Our results indicated a stronger propensity for intergroup contact for biculturals compared to monoculturals, yet no significant differences between monoculturals and biculturals

in terms of mental health and physical well-being. It was expected that number of perceived identities (i.e., monoculturals versus biculturals) would be the strongest predictor of psychosocial outcomes based on previous findings in the literature. However, our results seem to allude to the greater importance of more nuanced cultural identity variables, such as identity mismatch and majority-minority status, which had a stronger differential impact on individuals' outcomes than did perceived number of cultural identities alone.

The results of our study indicated that identity mismatch and majority-minority status were consistent predictors of relevant social and health outcomes. First, in regards to health outcomes, self-esteem and depression appeared to have stronger links or associations with cultural identification and complexities thereof, such as identity mismatch. Further, comfort with differences and behavioral intentions toward outgroups were both significantly predicted by measures of cultural identification and cultural complexity, indicating that cultural attachment (i.e., identity strength) and diversity (i.e., identity mismatch) in identification may influence the degree to which individuals prefer interacting with their own cultural group (i.e., ingroups) to that of others (i.e., outgroups). It may be reasonable to conclude that individuals with high levels of identity mismatch and majority-minority identity statuses may experience lesser feelings of subjective ingroup social belonging, as suggested earlier by the marginal-person model (Park, 1928), and therefore, seek contact and relationships with outgroup members more frequently than those with lower identity mismatch. Similarly, individuals with more complex identities that are incompatible may naturally have exposure to multiple differing cultural groups, and as a result, feel more comfortable with differences and with outgroup cultures than do individuals with more compatible, matching complex cultural identities. In sum, although the expected results contribute to and clarify the literature regarding both the positive and negative effects

experienced by bicultural and multicultural individuals, there is much more to be understood about the consequences and benefits of maintaining multiple cultural identities.

Limitations

Although the present study illuminated the debate about psychosocial outcomes for bicultural individuals, it contains several limitations, which must be considered in the evaluation of the aforementioned findings. First, the current study is exploratory, and therefore, does not warrant high generalizability or empirical stability until further replication under different conditions. Second, some of the measures employed, such as the Generalized Anxiety Disorder Scale (Spitzer et al., 2006) and the Basic Health Questionnaire (created for the purposes of this study), were not optimal choices for use in this study. In some cases, these measures may have assessed constructs other than those we intended or did not capture the desired construct, as they did not have a high internal reliability (i.e., Cronbach's alpha). Third, we were unable to recruit a comparative group of multicultural individuals in order to evaluate similarities and differences between monoculturals, biculturals, and multiculturals. Finally, Stony Brook University's culturally diverse university setting, which upholds policies that embrace diversity and multiculturalism, may be an additional factor that impacts students' mental health, potentially buffering bicultural students from the negative effects associated with cultural adaptation. Thus, is it unclear the extent to which these findings generalize.

However, despite all of the limitations of the present study, the results gleaned from this investigation may serve as a helpful tool to develop further studies, which can better evaluate similarities and differences between monoculturals, biculturals, and multiculturals with respect to psychological and social outcomes. In contributing to the literature, this exploratory investigation conceptualized two new constructs: (1) identity mismatch and (2) majority-minority identity

status, which demonstrate differential effects on psychosocial outcomes for bicultural individuals. Furthermore, to build on the previous literature in this field, our study aimed to develop a more systematic and objective method of characterizing complex cultural identities (via measures of perceived cultural identification and genealogical cultural identification, which were used to calculate identity mismatch and majority-minority status) to better compare monoculturals, biculturals and multiculturals and nuanced subgroups therein on several dimensions (e.g. intergroup contact) for future work to be conducted on this line of research.

Future Directions

In future iterations of this study and further investigation of the differences between monoculturals, biculturals, and multiculturals in terms of social and health outcomes, a greater recruitment effort will be demonstrated to collect data on comparative groups of individuals from differing cultural backgrounds and varying levels of cultural identity complexity (e.g., monoculturals versus biculturals). More diversity in the complexity of cultural identities represented (monoculturals versus biculturals versus multiculturals) may shed more light on the predictive power of one's number of perceived cultural identities in determining social and health outcomes. Additionally, it may provide more varied combinations of identity mismatch and majority-minority status cases, which may further inform our knowledge of this subject. Furthermore, future studies should be conducted to investigate other potential moderators of social and health outcomes for bicultural and multicultural individuals. Given that identity mismatch emerged as an important predictor of social and health outcomes, there may be other cultural identity related factors that may be more unilaterally predictive of psychosocial outcomes. For instance, perceived ingroup prototypicality (i.e., the degree to which an individual is prototypical of his/her respective ingroups) may play a role in the formation of identity

mismatch. Suppose an individual does not feel physically or culturally prototypical of his/her cultural ingroup, he/she may feel a lack of perceived ingroup belonging. As such, these feelings of marginalization may lead the individual to disengage with any or all cultures for which he/she does not feel prototypical, leading to identity mismatch. Finally, as already demonstrated, these individuals would, therefore, feel greater propensity for intergroup contact than those with low identity mismatch. Further, majority-minority status should be considered as a potential moderator for the expected effect based on the current findings.

Additionally, the effects of potential confounding variables, such as socioeconomic status, education level, and other demographic variables should also be considered. For instance, individuals with multiple cultural identities may be more likely to have a lower socioeconomic status than monoculturals, particularly for those with majority-minority identity statuses (rather than white monoculturals). Further, as low socioeconomic status has been demonstrated to impact mental and physical health outcomes, this demographic may have a predictor that should be included in future models. Lower levels of education as well as political affiliation, religiosity and social dominance orientation may also be negative predictors of intergroup contact. Future studies should more comprehensively control for such confounding variables as well as further expound on this area of research. In sum, additions to our exploratory investigation of the differences between monoculturals and biculturals should be conducted to provide some clarity to the ongoing debates in the field regarding the social and health outcomes of maintaining two or more cultural identities.

Conclusion

In conclusion, our present investigation sought to engage in the current debate regarding the positive and negative outcomes associated with maintaining two or more cultural identities. We

found no significant differences between monoculturals and biculturals in terms of physical and mental health. However, self-esteem and depression were significantly predicted by identity-related factors, such as strength of cultural identification and identity mismatch. Moreover, we did find a significant difference between monoculturals and biculturals, particularly those with high identity mismatch, in terms of propensity for intergroup contact. In sum, our contribution aims to further fuel the investigation of factors that may moderate or mediate psychosocial outcomes for individuals with complex cultural identities, redirecting the current debate in this field to capture the unique capabilities and experiences of these individuals.

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Table 1

Participant Racial Breakdown

Census Classification	Monocultural	Bicultural	Total
White	62	140	202
Asian	71	56	127
Hispanic or Latino	30	27	57
Black or African American	12	17	29
Native Hawaiian or Pacific Islander	1	0	1
American Indian or Alaska Native	3	1	4
Other	0	1	1

*Census categorizations were employed for the purposes of this table. For bicultural individuals, participants may be represented more than once.

Table 2

Descriptive Statistics of Outcome Measures by Subgroup

<u>Outcome Measures</u>	<u>Monoculturals</u>		<u>Biculturals</u>		<u>Cronbach's Alpha</u>
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>α</u>
Relativistic Appreciation	4.54	0.79	4.68	0.71	0.42
Diversity of Contact	4.44	0.95	4.58	0.81	0.83
Comfort with Differences	2.39	0.85	2.21	0.86	0.57
Beh. Int. Toward Outgroups	5.62	0.92	5.86	0.67	0.94
Physical Health	1.52	0.72	1.43	0.47	0.44
Self-Esteem	4.28	1.10	4.35	1.24	0.91
Anxiety	2.83	1.00	2.80	0.96	0.91
Depression	2.57	0.63	2.58	0.66	0.83

Table 3

Hierarchical Regression Analyses for Self-Esteem

Predictors	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Number of Identities	.027	.041	.046	.043	.040
Identity Strength		.168**	.159**	.159**	.131*
Majority/Minority Identity			-.159*	-.161*	-.087
Identity Mismatch			-.155*	-.150*	-.150*
Gender				.066	.104
Relativistic Appreciation					-.051
Diversity of Contact					.031
Comfort with Differences					-.169
Beh. Int. Toward Outgroups					.144**
Adjusted R^2	-.003	.022	.045	.046	.083
ΔR^2	.001	.028**	.029**	.004	.049**

* $p < .05$, * $p \leq .01$, *** $p \leq .001$

Table 4

Hierarchical Regression Analyses for General Health

Predictors	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Number of Identities	-.067	-.068	-.060	-.060	-.045
Identity Strength		-.004	-.003	-.003	-.035
Majority/Minority Identity			.066	.067	.075
Identity Mismatch			.044	.043	.032
Gender				-.018	-.037
Relativistic Appreciation					-.024
Diversity of Contact					-.070
Comfort with Differences					.103
Beh. Int. Toward Outgroups					.082
Adjusted R^2	.001	-.002	-.005	-.008	.001
ΔR^2	.005	.000	.004	.000	.022

* $p < .05$, * $p \leq .01$, *** $p \leq .001$

Table 5

Hierarchical Regression Analyses for Anxiety

Predictors	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Number of Identities	-.010	-.016	-.051	-.040	-.036
Identity Strength		-.065	-.050	-.051	-.062
Majority/Minority Identity			.083	.091	.073
Identity Mismatch			.152*	.136*	.125
Gender				-.214***	-.234***
Relativistic Appreciation					.068
Diversity of Contact					-.068
Comfort with Differences					.103
Beh. Int. Toward Outgroups					.022
Adjusted R^2	-.003	-.002	.009	.052	.052
ΔR^2	.000	.004	.018	.046***	.013

* $p < .05$, * $p \leq .01$, *** $p \leq .001$

Table 6

Hierarchical Regression Analyses for Depression

Predictors	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Number of Identities	-.005	-.016	.016	.022	.024
Identity Strength		-.138*	-.140*	-.140*	-.141*
Majority/Minority Identity			.176**	.180**	.161*
Identity Mismatch			.088	.079	.072
Gender				-.117*	-.136*
Relativistic Appreciation					.076
Diversity of Contact					-.066
Comfort with Differences					.078
Beh. Int. Toward Outgroups					-.002
Adjusted R^2	-.003	.012	.031	.041	.037
ΔR^2	.000	.019*	.025*	.014*	.009

* $p < .05$, * $p \leq .01$, *** $p \leq .001$

Table 7

Hierarchical Regression Analyses for Relativistic Appreciation

Predictors	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Number of Identities	.093	.090	.102	.106	.097
Identity Strength		-.036	-.034	-.034	-.033
Majority/Minority Identity			.125	.127	.129
Identity Mismatch			.085	.080	.086
Gender				-.064	-.061
Self-Esteem					.052
General Health					-.080
Anxiety					.000
Depression					.067
Adjusted R^2	.005	.003	.010	.011	.006
ΔR^2	.009	.001	.014	.004	.008

* $p < .05$, * $p \leq .01$, *** $p \leq .001$

Table 8

Hierarchical Regression Analyses for Diversity of Contact

Predictors	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Number of Identities	.082	.087	.096	.107	.098
Identity Strength		.063	.066	.065	.060
Majority/Minority Identity			.127	.135	.145*
Identity Mismatch			.095	.079	.092
Gender				-.216	-.223***
Self-Esteem					.049
General Health					-.085
Anxiety					-.029
Depression					.033
Adjusted R^2	.003	.004	.012	.056	.054
ΔR^2	.007	.004	.015	.046***	.011

* $p < .05$, * $p \leq .01$, *** $p \leq .001$

Table 9

Hierarchical Regression Analyses for Comfort with Differences

Predictors	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Number of Identities	-.102	-.093	-.033	-.039	-.021
Identity Strength		.116*	.108	.109	.129*
Majority/Minority Identity			.229***	.225**	.200**
Identity Mismatch			.076	.085	.052
Gender				.113*	.129*
Self-Esteem					-.192**
General Health					.083
Anxiety					.061
Depression					-.097
Adjusted R^2	.007	.017	.051	.061	.089
ΔR^2	.010	.013*	.040**	.013*	.040**

* $p < .05$, * $p \leq .01$, *** $p \leq .001$

Table 10

Hierarchical Regression Analyses for Behavioral Intentions Toward Outgroups

Predictors	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Number of Identities	.114*	.136*	-.020	-.014	-.019
Identity Strength		.259***	.296***	.295***	.272***
Majority/Minority Identity			-.240***	-.236***	-.221***
Identity Mismatch			.123	.115	.133*
Gender				-.108*	-.102
Self-Esteem					.226***
General Health					.061
Anxiety					.058
Depression					.068
Adjusted R^2	.010	.073	.138	.146	.169
ΔR^2	.013*	.066***	.070***	.012*	.034*

* $p < .05$, * $p \leq .01$, *** $p \leq .001$