A META-ANALYTIC EXAMINATION OF THE EFFECTS OF ETHNIC IDENTITY ON PSYCHOLOGICAL WELL-BEING AND ACADEMIC OUTCOMES AMONG U.S. LATINA/O YOUTH

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ABSTRACT

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by Jennifer M. Felber

The Latina/o population in the United States (U.S.) has grown considerably in the last decade. Even though the Latina/o youth population has been rapidly expanding, not much research has focused on this group (Acevedo-Polakovich, Chavez-Korell, &Umaña-Taylor, 2011). Of the published research on Latina/o youth, ethnic identity and its influence on psychological and academic development has been a focus in research. Although ethnic identity theory, identity formation research, and social identity research suggest that the development of ethnic identity should be associated with positive psychological outcomes among U.S. Latina/o youth, results have varied considerably. In an effort to clarify the inconsistencies in the literature, this study systematically synthesized research Results suggest that ethnic identity is significantly related to academic attitudes, positive outcomes, and self-esteem. High levels of variability observed in each analysis suggest that ethnic identity alone does not influence psychological well-being and positive academic outcomes. Directions for future research and implications for practice are provided.

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CHAPTER I

INTRODUCTION

The Latina/o population in the United States (U.S.) has grown considerably in the last decade. This population increased by approximately 37% between 2000 and 2009,accounting for approximately 13 of the 26 million people added to the U.S. population(Saenz, 2010).The U.S. Census Bureau (2006) predicts that Latinas/os will make up approximately 17.8% of the U.S. population by 2020 and 25% by 2050.Of the Latina/o population, youth are of particular interest. This is because over a quarter of the total Latina/o population is under the age of 18 (Gonzales, Fabrett, & Knight, 2009: Pew Hispanic Center, 2011).

Although the Latina/o youth population has been rapidly expanding, not much research has focused on this group (Acevedo-Polakovich, Chavez-Korell, &Umaña-Taylor, 2011).A recent review by Umaña-Taylor (2009) indicated that Latina/o youth are underrepresented in the literature. Umaña-Taylor (2009) reviewed two journals, the *Journal of Research on Adolescents* and *Child Development*, to identify the number of articles published during 2007 and 2008 that focused on Latina/o youth. These journals were chosen because they focus specifically on child and adolescent development. Umaña-Taylor found only 2 articles that were focused on Latinas/os. Additionally, less than a quarter of articles published in the two journals included Latinas/os in their sample. Umaña-Taylor's (2009) results are consistent with those of an earlier, much more extensive, review of the adolescent research. Rodriguez and Morrobel (2004) examined articles published in eight youth development and Latina/o focused journals between 1996 and 2001. Of 1,010 empirical articles published within those 5 years, only 30% included Latina/o youth, 6% indicated results on Latina/o youth, and less than 3% focused specifically on Latina/o youth (Rodriguez &Morrobel, 2004). Considered jointly, Umaña-Taylor (2009) and

Rodriguez and Morrobel's (2004) reviews of the empirical literature suggest that U.S. Latina/o youth are underrepresented in the adolescent research literature.

Ethnic Identity

Within the limited research that has been conducted on Latina/o youth, ethnic identity has been identified as an essential aspect of psychological development for this group (Gonzales et al., 2009; Phinney, 1996). Ethnic identity is defined as the integration of an individual's culture into their self-identification through processes of exploration, resolution, and affirmation (Phinney, 1993; Umaña-Taylor,Yazedijian, & Bámaca-Gómez, 2004). Importantly, ethnic identity is theorized to be an essential component of successful psychological development among U.S. Latina/o teens (Gonzales et al. 2009; Quintana & Scull, 2009). The link between ethnic identity and psychosocial health is based on two broader psychological phenomena: The crucial role of overall identity development during adolescence (Erikson, 1968), and the importance of social identity (Tajfel & Turner, 1979).

The teen years have long been viewed as a critical period for identity formation (Erikson, 1968; Phinney, 1993). Exploration is the foundation for ethnic identity formation. According to Umaña -Taylor and Fine (2004), ethnic identity is influenced by ethnic socialization (e.g. learning about one's culture directly or indirectly), from one's family and/or environment. However, one's social and cognitive maturity influences the relationship between ethnic socialization and ethnic identity. During adolescence, children are expected to and are more capable of making autonomous decisions and become more independent, as a result of social maturation. It is also around this time when ethnicity becomes more prominent as a result of increased cognitive maturity (Umaña -Taylor & Fine, 2004). When individuals become more

aware of their ethnicity and become more in control of their own lives they begin to actively explore the meaning of their ethnicity through activities such as conversations with family and friends and participation in traditions associated with their ethnic heritage (Phinney, 1989). Ideally, adolescents consider their commitment and personal investment of their heritage once a sufficient base of knowledge regarding this ethnic heritage has been established (Phinney & Ong, 2007). An informed commitment to this heritage is associated with self-acceptance and feelings of belonging, which in turn facilitates psychological health (Gonzales et al., 2009; Phinney & Ong, 2007; Quintana & Scull, 2009). However, some youth do make a commitment without having a sufficient base of knowledge (Umaña-Taylor, Yazedijian, & Bámaca-Gómez, 2004). In other words, some youth commit to an identity without exploring their options; usually adopting the identity of a family member (Phinney, 1989; Umaña-Taylor, Yazedijian, & Bámaca-Gómez, 2004). An identity that is formed with little or no exploration is referred to as a foreclosed identity.

While developmental theory highlights the importance of adolescence as a time for identity development, social identity research underscores the importance of ethnicity as a component of identity among U.S. Latinas/os. According to the social identity theory, an important part of how individuals perceive themselves is related to their membership and feelings of belonging to social groups (Tajfel & Turner, 1979). Identifying with a social group serves as a protective factor and is a positive component of development unless the group is devalued within the larger social setting (French, Seidman, Allen, & Aber, 2006). Although most other devalued group identities can be managed by switching affiliations, scholars have noted that in the specific case of ethnic identity this solution may carry negative consequences for psychological functioning, especially when ethnic membership is signaled by physiognomic

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characteristics (Phinney, 1990). As such, U.S. Latinas/os and other ethnic minorities must access alternate means of coping with their devalued ethnic membership. These include reinterpretation of the value of their group (Bourhis, Giles, & Tajfel, 1973) and stressing the distinctiveness of their own group (Christian, Gadfield, Giles, & Taylor, 1976; Hutnik, 1985). Scholars have suggested that responses such as these are associated with developing pride in one's ethnic membership (Phinney, 1990).

While ethnic identity theory, identity formation research, and social identity research suggest that the development of ethnic identity should be associated with positive psychological outcomes among U.S. Latina/o youth, research does not uniformly support this idea. Although some research has found ethnic identity in Latina/o youth to be associated with positive adjustment variables such as increased self-esteem, reduced substance abuse, and reduced sexual risk taking behaviors, other research has found either a null or negative relation between ethnic identity and these variables (Gonzales et al., 2009; Umaña-Taylor, 2011).

Components of Ethnic Identity in the Research

Ethnic identity has been described as a multidimensional construct consisting of three main components: exploration, resolution, and affirmation (Umaña-Taylor & Fine, 2004; Supple et al., 2006). The first component of ethnic identity is exploration. As previously mentioned exploration consists of engaging in activities to learn about one's ethnic heritage, such as researching online, asking family members, attending social events, etc. Exploration is an important piece to ethnic identity because it can influence one's commitment to their ethnic identity (Phinney & Ong, 2007). For example, those who take the time to explore the ethnic heritage and use the information gathered in their decision regarding ethnic identity, their

commitment to that ethnic identity may be more secure and less likely to change over time (Phinney & Ong, 2007). The next component of ethnic identity is resolution. Resolution involves understanding and feeling confident about what one's ethnic identity means to them (Umaña-Taylor, Yazedijian, & Bámaca-Gómez,, 2004). The final component to ethnic identity is affirmation. Affirmation consists of how an individual feels about their group, in other words, their attitudes toward their ethnic group, along with feelings of belonging and attachment to their group. These components influence an individual's overall identity formation.

According to Marcia (1994), there are four different identity statuses that are influenced by the degree in which an individual has explored their ethnic identity and resolved any issues regarding their identity before committing to an ethnic group (Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004). The four identity statuses are diffuse, foreclosed, moratorium, and achieved. Diffuse identities are classified as identities formed without exploring and committing to an identity. Foreclosed identities are those who have not explored, but have committed to an ethnic group. These individuals often follow in the footsteps of their family members instead of exploring options and researching their ethnic group. A moratorium identity evolves when an individual explores, but has not committed. Lastly, an achieved identity is characterized by exploration and commitment (Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004).

In the existing literature, researchers have taken two different approaches when trying to examine the relationship between ethnic identity and various outcome variables. One approach is examining the relationship between ethnic identity achievement, (e.g., sum of all three components of ethnic identity; Phinney, 1992), in relation to a specific outcome variable. This approach is reflected in the work of Umaña-Taylor (2004), where ethnic identity achievement was examined in relation to self-esteem. In this study, the researchers used Phinney's (1992)

Multi-group Ethnic Identity Measure (MEIM) to assess adolescents' ethnic identity. The MEIM consisted of 14 items that assessed all three components of ethnic identity. The researchers calculated an achieved ethnic identity score, by adding up the scores of the 14 items on the MEIM. Higher scores were associated with higher levels of ethnic identity achievement (Umaña-Taylor, 2004). This study produced positive results indicating that there was a positive relationship between ethnic identity and self-esteem. This approach has been very common in the literature. Phinney (1992) also looked at ethnic identity achievement and its relation to self-esteem among minority and non-minority youth. Results indicated a positive relationship between ethnic identity achievement and self-esteem for minority youth.

Another approach researchers have used is to look how each component is individually linked to various outcomes. Some studies look at one or two components, while others look at all three components separately in relation to an outcome variable. This allows researchers to determine the link of a specific component to an outcome variable. This method was used by Supple et al. (2006). In this study, the researchers examined the relationship between the components individually and academic outcomes for Latina/o youth. Results suggested that affirmation was positively correlated with reported academic outcomes, whereas exploration and resolution were not.

Meta-Analysis

Because meta-analyses allow for studies to be analyzed and summarized in a systematic way, they are often used to clarify the relationship between two variables when individual studies have failed to render consistent findings (Card, 2011; Myers, 1991). A meta-analysis summarizes the relationship between two variables by combining the results of separate research

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studies through the use of various statistical methods (Card, 2011). This can allow for a clarified understanding of the relation among variables, providing a clearer direction for future research and theory development. Because of this, meta-analyses have the potential to address many of the important questions arising from the existing research on the relation between ethnic identity and psychological health among U.S. Latina/o youth.

There are many specific advantages of using meta-analyses to clarify relationships between different variables. One is that meta-analyses use statistical methods to evaluate the relationship between variables, thus providing a clearer answer than that which can be obtained from qualitative methods (Hunter & Schmidt, 2004). A second advantage is increased statistical power, which is obtained from increasing sample size by consolidating the results of several studies (Myers, 1991).A third advantage is that the examination of the strength of the relationship across multiple studies can provide a more accurate analysis than unrepresentative single studies (Myers, 1991). Taken together, these advantages allow the results of meta-analyses to provide the empirical building blocks for an improved understanding of ethnic identity's role in the psychological health of U.S. Latina/o youth (Hunter & Schmidt, 2004).

Purpose of Study

The purpose of this study was to clarify the relationship between ethnic identity and psychological adjustment among U.S. Latina/o youth. An improved understanding of this relationship might be useful in identifying risk for psychological adjustment problems and in developing ways to encourage and promote ethnic identity in adolescence. The main question guiding this research was under what conditions is ethnic identity related to psychosocial health among U.S. Latina/o youth?

CHAPTER II

METHODOLOGY

Identifying Articles

In an effort to include all relevant literature, a multi-component approach was used to identify studies. The inclusion criteria for this study was that they had to provide statistical correlations between ethnic identity and an outcome, or results that could be converted to a correlation, focused on or included Latina/o youth in their sample, focused on a population ranging from the ages of 12 to 17, and measured a proposed outcome of ethnic identity. Additionally, studies were analyzed to ensure ethnic identity measured matched a definition of ethnic identity. Studies that measured components of ethnic identity such as ethnic awareness, ethnic self-identification, ethnic behaviors, and ethnic attitudes were included in the analyses. Studies were excluded if they only recorded data on ethnic identification. One component involved the identification of studies through use of the search engine PsycINFO. Specifically, the keywords "ethnic identity," "Latino," "Latina," "youth," "adolescent," and "Hispanic" were used in searches. This search generated 146 studies. After articles were identified, each individual article was examined to determine whether or not it met the inclusion or exclusion criteria. Of the 146 studies identified through the PsycINFO search, 34 met the aforementioned inclusion criteria.

The second component of the approach was to employ a technique referred to as snowball sampling, which involved reviewing the reference sections of the articles meeting inclusion criteria that were gathered through the literature search in an attempt to identify additional

articles that met inclusion criteria. A total of 35 additional studies were identified and reviewed through this search method, resulting in eight studies meeting the inclusion criteria.

Lastly, the articles that were identified for inclusion were then examined in a web of science review where all of the articles that have cited each particular source were identified, and reviewed in an attempt to identify more articles that met inclusion criteria. The web of science generated 12 additional studies that were examined for inclusion criteria. A total of four met the inclusion criteria. Once a list was generated that included all of the results meeting inclusion criteria obtained through the first three components of this search strategy, requests for additional (published and unpublished) studies was sent through relevant professional distribution lists and to specific experts in the area (e.g., Adriana Umaña-Taylor and Stephen Quintana). This method generated an additional 13 studies, but only six met the inclusion criteria. In order to account for publication bias—the tendency for only theory-confirming results to be published (Card, 2011)—a final component will involve searching the UMI dissertation abstracts database using the same terms as used in the original PsycINFO search. A total of nine dissertations were identified as meeting the inclusion criteria. Overall, a total of 61 studies were identified as meeting the initial inclusion criteria.

Study Variables Coded for Meta-Analysis

Eligible studies were coded on multiple dimensions (Appendix A for a sample coding sheet). The variables described below were required for the calculation of effect sizes and necessary in order to conduct the meta-analysis.

Sample Size

The sample size is used to weight the correlations from each study, and is needed in order to calculate the meta-analytic effect size (Card, 2011). The recorded sample size was specific to the number of Latina/o youth included in the sample. If the study did not separately report the number of Latina/o youth included in the sample, the authors were emailed for the additional information. If the information was not provided, the study was not included in the meta-analysis. Approximately 15 studies were excluded from this meta-analysis because results were not broken down by ethnic group.

Ethnic Identity Measure

As previously introduced, ethnic identity is a complex multi-component construct, with some components having a greater bearing on psychological health than others (Phinney, 1990; Umaña-Taylor, 2011). Because not all scales that assess ethnic identity measure the same components of the construct (Ponterotto & Park-Taylor, 2007), the specific measure (or version of a measure) used was recorded and examined as a potential moderator.

The reliability coefficient for the scale was coded in order to estimate the effect size corrected for attenuation. If the authors reported separate alpha coefficients for different ethnic groups within the sample, Cronbach's alpha coefficient was recorded for the sample of interest (e.g., Latina/os). If the authors did not report an alpha coefficient for the Latino/a sample, the researchers recorded which ever reliability coefficient that was reported the coefficient derived from the general sample. In cases where multiple co-efficient alphas were reported, we used the alpha co-efficient for the U.S. Latina/o sample. If the co-efficient alphas were reported for the full sample (i.e., with multiple ethnic groups) and for the original sample observed, we chose to

use to the alpha co-efficient calculated with the current sample under investigation. Finally, we recorded the alpha coefficients found in the normative study if the specific study did not report an alpha coefficient.

Dimension of Psychological Adjustment

In attempting to explain the variability in results across studies examining the relation between ethnic identity and psychological adjustment, some scholars have focused their explanations on the specific dimension of psychological adjustment being examined (e.g., Greig, 2003). For instance, in reviewing the literature examining the relation between ethnic identity and mental health among African American and U.S. Latina/o adolescents, Greig (2003) noted that a moderate but consistently positive relation was found in most of the studies focused on positive mental health outcomes while the results of studies focused on adverse mental health indicators seemed to depend on whether the indicator assessed internalizing or externalizing problems. Because of this, the domain of psychological adjustment examined in a study was considered as a potential moderator of the relation between ethnic identity and psychological adjustment. The dimension of psychological adjustment, the instrument used to measure the outcome variables of interest, and the associated reliability co-efficient were recorded. The sample procedure was used as for the ethnic identity measures when determining which Cronbach alpha-coefficient to record.

Other Coded Study Characteristics

While there are a number of variables that were required in order to run the meta-analysis, the research team also coded the following variables that have been identified to play a role in the relationship between ethnic identity and psychological and academic outcomes.

Although these variables were coded, we were unable to run moderator analyses to assess the impact of these variables for 5 out of 6 analyses due to a small sample sizes and a lack of information reported amongst researchers. Analysis 6, the relationship between ethnic identity and self-esteem was the only analysis that moderation analyses were run. Peer reviewed status and type of instrument tool used to measure ethnic identity were the only two variables examined for moderation effects. Although peer reviewed status and measurement tools were the only variables examined through moderation analyses, the following information is described to provide some background and insight as to why the other variables were coded as well as to illustrate important variables for future study.

Generational Status

The generational status of U.S. Latina/o adolescents is associated with different patterns of risky behavior and academic outcomes (Fuligni & Perreira, 2009). Foreign-born adolescents are less likely to engage in substance use, delinquent behaviors, and engage in sexual risk taking behaviors, and performed similar to their peers in both primary and secondary educational settings (Fuligni & Perreira, 2009). Because generational status is also associated with ethnic identity and other cultural processes (e.g., Fuligni & Perreira, 2009), it was recorded as a potential moderator of the relation between ethnic identity and psychological adjustment. The generational status was recorded by indicating whether the sample consisted of immigrants (i.e., first generation), or individuals from subsequent generations.

Age

Because ethnic identity develops throughout adolescence, its relation to psychological adjustment may also change as U.S. Latinas/os grow older (Quintana& Scull, 2009). As such, the

average age of the Latina/o sample was recorded. A number of studies only reported age for the overall sample as opposed to calculating and reporting the mean age separate for each ethnic group included in the sample. In these cases, the mean age of the sample was recorded, but indicated as such on the coding sheet. The researchers also emailed the authors of such study in attempt to obtain the desired information.

Biological Sex

Previous research using U.S. Latina/o adolescent samples has documented differences in psychological adjustment indicators based on biological sex. For example, while females are more likely to attempt suicide (Garafalo, Wolf, Wissow, Woods, & Goodman, 1999), males are more likely to engage in drug/substance abuse (Marsiglia, Kulis, Hecht, & Sills, 2004). Although biological sex has less often been explored in ethnic identity research among U.S. Latina/o adolescents, there are a few studies documenting sex differences in the relation between ethnic identity and psychological health among African Americans (e.g., Cokley, 2001). For this reason, biological sex was recorded. In cases where biological sex was not reported, the authors of the study were emailed for the additional information.

Location from which the Sample Was Drawn

Because of reduced acculturative stress, individuals residing in areas with high concentrations of people who share their ethnic heritage can experience better psychological health (Schwartz et al., 2010; Umaña-Taylor, 2011). Moreover, being surrounded by others of the same ethnic group may foster ethnic identity (Schwartz et al., 2010). Consequently, the location from which a sample was drawn was considered as a potential moderator of the relation between ethnic identity and psychological adjustment.

Specific Latina/o Group

Combining specific Latina/o heritages into one group is often criticized in the literature because specific groups have characteristics that are unique and impact psychosocial functioning differently (Quintana & Scull, 2009; Umaña-Taylor & Fine, 2001). For this reason, the specific Latina/o heritage prevalent in a sample was reported.

Peer-reviewed Status

Researchers have identified a tendency among scientists—often referred to as publication bias—to disproportionately accept for peer-reviewed publication those studies that (a) support existing theory and (b) show statistically significant results (Card, 2011). In order to account for the possibility of publication bias, a final potential moderator of the relation between ethnic identity and psychological adjustment was considered in this study is whether or not a study was peer-reviewed.

Mean & Standard Deviation

The mean and standard deviations were recorded for each study. These were recorded so in the event the authors did not report a correlation between ethnic identity and an outcome variable, the correlation could be computed using this data.

Calculating & Recording Effect Sizes

Effect sizes were recorded as they were provided in the study. In some, effects sizes were derived from the information provided in F-ratios and t-tests. The characteristics and effect sizes were recorded using a paper form. If the information was not provided in the manuscript, the research team made several attempts to contact the researchers through e-mail and phone. After

the coding process, 37 out of the original 61 studies were eliminated, leaving a total of 24 studies. Studies were eliminated for the following reasons: 1) effect sizes were not provided by the researchers because either it has been past 7 years and they no longer have the data or they did not collect data on the information requested by the researchers, 2) the definition of ethnic identity did not match the definition the researchers determined to use, 3) ethnic identity was not measured, or there was no outcome variable measured. Of the 24 studies, 17 were published in peer-reviewed journals and 7 were dissertations. Top journals include *Cultural Diversity and Ethnic Minority Psychology* (k=3), *Journal of Youth and Adolescence* (k=3), *Journal of Adolescence* (k=2), and *Journal of Early Adolescence* (k=2). The following journals each published one study that was included in the current meta-analysis: *Journal of Counseling and Development*, *Developmental Psychology*, *Child Development, Journal of Applied Social Psychology, American Journal of Community Psychology, Youth and Society,* and *Professional School Counseling.* Studies included in the meta-analysis were published between the years of 1997 and 2011. Specifically, one study in 1997, two studies in 1999, one study in 2003, one study in 2004, two studies in 2005, one study in 2006, four studies in 2007, two studies in 2009, and one study was published in 2011. In regards to dissertations, studies were submitted between the years of 1997 and 2008.

<div align="center">Meta-Analytic Procedures</div>

The first step in the meta-analysis was to calculate effect sizes. For majority of the studies coded, the Pearson *r* correlation was reported and no additional calculations were necessary. However, in the Boveja (2000) study the authors conducted a series of *t*-tests to examine the relationship between ethnic identity and school attitudes for Latino Adolescents. In this case, the

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effect size calculator (Lipsey & Wilson, 2001) was used to convert the results of the t-test to a Pearson *r* correlation. In some studies, the authors reported correlations for each subscale of the ethnic identity measure as opposed to the full scale. Because this encounter did not occur enough to use as a potential moderator, the researchers determined to use the average of the reported correlations for the different subscales of that particular measure. Additionally, in Luther (2008) and Niemeier (2006), the authors examined the relationship between ethnic identity and a variety of risky behaviors. For these studies, correlations for the alcohol use and drug use variables were averaged together and the average substance use correlation was included in the meta-analysis for each of these studies.

The next step was to determine how to combine the variety of reported outcomes in a meaningful way. In doing so, the research team analyzed the data recorded during the coding process to determine which outcome variables fit. As a result, the team decided to group the variables into 5 groups; academic achievement, academic attitudes, positive outcomes other than self-esteem, internalizing problems, externalizing problems, and self-esteem. It was decided to spilt academic related variables into two distinct categories; academic achievement and academic attitudes. The academic achievement analysis contained only studies that measured academic performance. Majority of the studies reported achievement by reporting overall grade point average (GPA), while one study measured academic achievement by asking participants to rate their academic performance using a Likert scale (i.e., 0 meaning F's and 9 meaning A's). The academic attitudes analysis contained studies that measured attitudes toward learning and school. One decision made when sorting out studies that is important to note is that although Sandoval (1997) measured academic self-concept, the study appeared to fit more with the academic attitudes as opposed to the positive outcomes category because they assessed the student's

perception of his or her academic ability and feelings about performance in school (e.g., "I get good marks in school,"). All the outcome measures included in the analyses were questionnaires filled out by the student. The positive outcomes analysis consisted of studies that assessed outcome variables that were considered to be an asset to the individual. The studies that did not fit into the self-esteem category were included in this analysis. The positive outcomes category consisted of three studies that utilized a self-report method to assess outcomes such as helping behavior and happiness. Higher scores were indicative of higher levels of happiness and prosocial behaviors.

Because there were a number of studies that assessed psychological well-being, we split the studies into two categories. Those that measured internal problems such as feelings of sadness or distress were grouped into the internalizing problems category and those that assessed risky and/or problem behaviors such as substance abuse, cigarette smoking, fighting were placed in the externalizing symptoms category. Each study in both categories utilized a self-report measurement tool. Higher scores were indicative of higher levels of internalizing symptoms and externalizing behaviors/symptoms.

Due to a large number of studies examining the relationship between ethnic identity and self-esteem, studies that measured this relationship directly was put in this category. All studies utilized a self-report measure to assess self-esteem. All studies except for Rosario (1999), measured self-esteem using a version of the Rosenberg Self-Esteem Scale (RSE). Rosario (1999) used the Self-Esteem Index. Higher scores were indicative of higher levels of self-esteem.

For each group, a main analysis was run to examine the relationship between ethnic identity and the previous mentioned dimensions of psychological health and academic outcomes.

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Before running the analysis, the researchers assessed the remaining studies for duplicate data using the method recommended by Wood, J. (2008). It is important to identify duplicate study effects before entering the data into the meta-analysis to ensure independence between samples. The first step was to identify studies that had one or more shared authors. The studies that shared one or more authors were then compared to see if the study characteristics were sufficiently different between studies. Those studies that had sufficient differences were assumed to be different studies. The studies that had similarities in study characteristics were then compared by their sample characteristics.

Analyses were conducted using the Hunter and Schmidt (2004) method, as applied in the Meta-Analysis Program version 1.1 (2005). This approach computes the weighted average correlation between two variables, with the weights determined by study sample size. Results are reported first only correcting for sampling error and without correcting for attenuation (unreliability), and then corrected for attenuation to produce the estimated rho. The predictor and criterion reliability for each study was also entered when available. Because reliability co-efficients were not reported for every study, an artifact distribution was created to estimate the degree of attenuation in the weighted average of observed correlations. Six separate analyses were run. These analyses examined the relationships between ethnic identity and the following correlates: 1) Academic achievement, 2) Academic attitudes, 3) Positive Outcomes, 4) Internalizing Problems, 5) Externalizing Problems, 6) Self-Esteem.

For each separate analysis, the number of studies (k), total sample size (N), the sample-weighted correlation between ethnic identity and the outcome variable (r), the confidence intervals for each correlation, the sample-weighted correlation corrected for attunation due to unreliability of the ethnic identity measure (rho), standard deviation of the correlations corrected

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for sampling error (*SDrho*), the credibility intervals, and the percent of variance accounted for by artifacts. The Confidence Interval gives the expected interval for the meta-analytic effect size, whereas the Credibility Intervals give the range where 80% of study effect sizes lie. The percent variance explained by artifacts is the amount of variance that can be attributed to sampling error, contamination of data, measurement error, etc. The remaining variance may be accounted for by moderators, thus moderation analyses are then often employed if there is a large amount of variance that is not accounted for by artifacts.

CHAPTER III

RESULTS

Analysis 1: The Relationship between Ethnic Identity and Self-Esteem

The first analysis was conducted to evaluate the relationship between ethnic identity and self-esteem. As shown in Table 1, ten studies contributed independent effects, 8 of which were published in peer-reviewed journals, and two dissertations. Publication years ranged from 1996 to 2009. As shown in Table 2, ethnic identity and self-esteem were positively moderately correlated (r=.22). When reliabilities were accounted for the average corrected correlation generated was .27. The correlation improved by .05 when corrected for reliabilities. A review of the 80% credibility interval, lower .17 and upper .37 and the 41% variance explained by artifacts suggests that there may be moderators present. Thus, we proceeded with moderation tests to examine the presence of moderators.

After assessing the results of the primary analysis for self-esteem, the review of the 80% credibility interval and percentages of variance explained, it was likely that moderating effects could be occurring. It was decided that in order to conduct the moderator analysis, the primary study needed to be able to be divided into two or more sections in which a minimal of 2 studies (k of 2) for one of the set of studies could be established with the other set of studies including 3 or more (*k* of 3). The only predictor that met these criteria was self-esteem. Self-esteem showed signs of moderating effects with low percent of the variance explained (Table 2). The studies were divided into two sets of subgroups. The first subgroup compared studies that assessed ethnic identity using a version of the MEIM (Phinney, 1992; Roberts et al., 1999) and those that assessed ethnic identity using other measures such as MIBI (Sellers et al., 1997) and the EIS

(Umaña-Taylor, et al., 2004). By comparing the subgroups of self-esteem by the MEIM and other measures of ethnic identity a separation in the average correlation was observed with the MEIM group (k=10) generating a .21 and the "other measurement" group (k=2) having a .27 correlation when correcting for both reliability and sampling error. We also see a decrease in the percent of variance explained for the MEIM group, but an increase in the "other measurement group," which was 37% and 100% respectively. Reviews of the confidence intervals for both the MEIM group and the "other measurement" group suggest a moderating effect because they do not overlap.

Moderating effects of the type of reference (e.g., published or unpublished) on self-esteem was also examined. The relationship between ethnic identity and self-esteem slightly improved when removing the effects of unpublished studies from .22 to .22. However, a decrease in the percentage of variance accounted for was also observed (40% and 34%, respectively). The correlation for the unpublished studies subgroup resulted in a decreased from .22 to .20, but the percent of variance attributed to all artifacts increased (40% and 100%, respectively). Barebones results do not appear to support moderation, but after correcting for sample size and reliability, there is some evidence for moderation (i.e., the 95% confidence intervals for unpublished and published studies are .20, .20 and .20, .24, respectively). However, these results should be interpreted cautiously and with appropriate weight given that there were only 2 studies in the unpublished categories. Two few of studies can yield inaccurate results.

Analysis 2: The Relationship between Ethnic Identity and Positive Outcomes

The relationship between ethnic identity and positive outcomes was evaluated through the second analysis. Positive outcomes encompassed both behaviors and feelings of worth. For

example, studies measuring happiness, self-efficacy, academic self-concept, and pro-social behaviors were included in this analysis. A total of 3 studies contributed effects to this analysis; 2 of which were pulled from peer reviewed journals. The total sample consisted of 674 participants. Additional study characteristics such as individual citations, correlations, and dependent and independent measures are depicted in Table 3. Overall, ethnic identity was moderately correlated with positive outcomes (r=.26). After correcting for both sampling error and reliability, the relationship between ethnic identity and positive outcomes improved to .34. The 80% credibility interval (lower= .34, upper=.34) suggests low levels of variability. The percent of variance attributable to all artifacts was 100%, suggesting all of the variance was accounted for by artifacts, suggesting that there is no meaningful variation between studies. However, due to a small number of studies included in this analysis, the results should be interpreted with caution. Additional information regarding the results can be found in Table 4.

Analysis 3: The Relationship between Ethnic Identity and Academic Achievement

The third analyses examined the relationship between ethnic identity and academic achievement. Six studies contributed effects that were independent to this analysis for a total sample size of 1202. Studies consisted of 4 published journal articles and 2 dissertations between the years of 1997 and 2010. For information regarding additional study characteristics see Table 5. The results of this primary analysis are depicted in Table 4. Overall, academic achievement was weakly related to ethnic identity (r=.08). The uncorrected correlation after removing sampling error was .08, when reliabilities were accounted for the average corrected correlation was .09. A review of the 80% credibility interval lower -.02 and upper .21 and the 45% variance explained by artifacts suggests that there may be moderators present. In other words, 55% of the

variance is due to true variation in the effect size, likely because of study level factors (moderators).

Analysis 4: The Relationship between Ethnic Identity and Academic Attitudes

The fourth analysis examined the relationship between ethnic identity and academic attitudes such as, but not limited to, study skills, motivation to succeed, general attitudes toward learning, and attitudes toward school. Information regarding study characteristics can be found in Table 6. A total sample size of 790 was included in this analysis, which was compiled from 5 different samples. Of the four articles included in this analysis, three articles were published in peer reviewed journals and two were dissertations. The results of this analysis are depicted in Table 4. The results indicate ethnic identity to be moderately related to academic attitudes (r=.26). Correcting for reliability generated a correlation of .32, which was a .06 increase. A review of the 80% credibility interval lower -.07 and upper .72 and the 8% variance explained by artifacts suggests moderators may be present and account for the additional 92% of variance.

Analysis 5: The Relationship between Ethnic Identity and Internalizing Problems

Analysis 5 was conducted to examine the relationship between ethnic identity and internalizing symptoms of psychological health. Examples of internalizing problems included in this analysis were symptoms of depression and anxiety. Information regarding study characteristics is depicted in Table 7. A total of 4 studies contributed effects to this analysis, with a total sample size of 662 participants. Three of the four studies included in this analysis were published in peer reviewed journals and one was a dissertation. Results of this analysis can be found in Table 4. Ethnic identity was negatively related to internalizing problems. Ethnic identity was weakly correlated with internalizing problems when both correcting for sampling error only

(r=-.09) and when correcting for sampling error and reliability (r=-.11). A review of the internalizing problems 80% credibility interval, lower -.11 and upper -.11. All of the variance was accounted for by artifacts, suggesting that there is no meaningful variation between studies. Further information regarding the results can be found in Table 4.

Analysis 6: The Relationship between Ethnic Identity and Externalizing Problems

The relationship between ethnic identity and externalizing psychological symptoms was evaluated through the sixth analysis. Additional study characteristics such as individual citations, correlations, and dependent and independent measures are depicted in Table 8. A total of 8 studies contributed independent effects to this analysis, 6 of which were derived from published journals and 2 were unpublished dissertations. The total sample consisted of 1683 participants. As shown in Table 4, ethnic identity was negatively associated with externalizing problems, and was not significantly related to the outcome variable (r= -.04). Thus, we proceeded to evaluate the relationship once sampling error and reliability were corrected for and the relationship between ethnic identity and externalizing problems did not improve to significant levels (r= -.05). Next, we examined the 80% credibility, lower, -.27 and upper .17, to determine amount of variability. Approximately 20% of variance was attributable to all artifacts, leaving 80% of variance attributed to unknown third party variables, such as possible moderators.

Table 1. Review of Correlations by Article for the Relationship between Ethnic Identity and Self-Esteem

Study	N	r	Ethnic Identity Measure
Carlson, Uppal, & Prosser (2000)	462	0.27	MEIM (Phinney, 1992)
Cavazos-Rehg & Delucia-Waack (2009)*	144	-0.09	MEIM-R (Roberts et al., 1999)
Dejud (2007)	131	0.17	MEIM (Phinney, 1992)
Kiang, et al. (2006) *	216	0.30	MIBI (Sellers et al., 1997)
Phinney, Cantu, & Kurtz (1996)	372	0.27	MEIM (Phinney, 1992)
Romero & Roberts (2003)	881	0.26	MEIM-R (Roberts et al., 1999)
Rosario (1999) *	83	0.25	MEIM (Phinney, 1992)
Sieger & Renk (2007)	51	0.50	MEIM (Phinney, 1992)
Umaña-Taylor & Updegraff (2007)*	273	0.25	EIS (Umaña-Taylor, et al., 2004)
Umaña-Taylor (2004)	729	0.15	MEIM (Phinney, 1992)
Umaña-Taylor (2004)	137	0.19	MEIM (Phinney, 1992)
Umaña-Taylor (2004)	196	0.15	MEIM (Phinney, 1992)

*Note: N= total sample size; r=correlation between ethnic identity and the outcome variable; EIS=The Ethnic Identity Scale; MEIM= The Multigroup Ethnic Identity Measure; MEIM-R= The Multigroup Ethnic Identity Measure Revised; all studies but one used the RSE=Rosenberg Self-Esteem Scale, Rosario (1999) used the SEI=Self-Esteem Index, * averaged together the correlations broken down*

Table 1. Review of Correlations by Article for the Relationship between Ethnic Identity and Self-Esteem (continued)

Study	Reference
Carlson, Uppal, & Prosser (2000)	Published
Cavazos-Rehg & Delucia-Waack (2009)*	Published
Dejud (2007)	Unpublished
Kiang, et al. (2006) *	Published
Phinney, Cantu, & Kurtz (1996)	Published
Romero & Roberts (2003)	Published
Rosario (1999) *	Unpublished
Sieger & Renk (2007)	Published
Umaña-Taylor & Updegraff (2007)*	Published
Umaña-Taylor (2004)	Published
Umaña-Taylor (2004)	Published
Umaña-Taylor (2004)	Published

*Note: N= total sample size; r=correlation between ethnic identity and the outcome variable; EIS=The Ethnic Identity Scale; MEIM= The Multigroup Ethnic Identity Measure; MEIM-R= The Multigroup Ethnic Identity Measure Revised; all studies but one used the RSE=Rosenberg Self-Esteem Scale, Rosario (1999) used the SEI=Self-Esteem Index, * averaged together the correlations broken down*

Table 2. Meta-Analysis and Moderation Results for Self-Esteem

Analysis	k	N	$r\ (CI_{95})$	$SD\ r$	rho	$SD\ rho$	80 % Credibility		% Var.
							Lower	Upper	
Primary									
Self-Esteem	12	3,666	.22 (.21, .23)	.09	.27	.08	.17	.37	41%
Moderator Measure									
MEIM	10	3177	.21 (.19, .23)	.09	.26	.09	.15	.37	37%
Other measures	2	489	.27 (.25, .29)	.02	.34	.00	.34	.34	100%
Reference									
Published	10	3452	.22 (.20, .24)	.09	.27	.09	.17	.39	34%
Unpublished	2	214	.20 (.16, .24)	.04	.24	.00	.24	.24	100%

Note: % Var. = Percent of variance attributable to all artifacts. k= number of studies; N= total sample size; r = the average correlation of studies without corrections for artifacts; rho= the average corrected correlation for sample size and reliability of the studies; $SD\ rho$= standard deviation of the corrected correlation. MEIM=The Multigroup Ethnic Identity Measure; Other measures= Ethnic Identity Scale, Ethnic Identity Scale, Ethnic Identity Search, and Multidimensional Inventory of Black Identity. Published = Peer-reviewed journals. Unpublished = Dissertations,

*= the range was minimal, thus when rounding up it appears that there is no difference.

Table 3. Review of Correlations by Article for the Relationship between Ethnic Identity and Positive Outcomes

Study	N	r	Ethnic Identity Measure
Kiang et al. (2006)*	216	0.24	MIBI (Sellers et al., 1997)
Rivas (2005) *	111	0.35	MIBI (Sellers et al., 1997)
Schwartz, Zamboanga, & Jarvis (2007)	347	0.25	MEIM-R (Roberts et al., 1999)

Note: N= total sample size*; r=*correlation between ethnic identity and the outcome variable;

MIBI=The Multidimensional Inventory of Black Identity; MEIM= The Multigroup Ethnic

Identity Measure; MEIM-R=The Multigroup Ethnic Identity Measure-Revised,* averaged together

the correlations broken down by subscales

Table 3. Review of Correlations by Article for the Relationship between Ethnic Identity and Positive Outcomes (continued)

Study	Outcome Variable
Kiang et al. (2006)*	Happiness (e.g., "To what extent do you feel joy?")
Rivas (2005) *	Self-efficacy (e.g., "I can get a higher paying job.")
Schwartz, Zamboanga, & Jarvis (2007)	Prosocial Behaviors (e.g., "I prefer to donate money annonymously."

Note: N= total sample size*; r=*correlation between ethnic identity and the outcome variable;

MIBI=The Multidimensional Inventory of Black Identity; MEIM= The Multigroup Ethnic

Identity Measure; MEIM-R=The Multigroup Ethnic Identity Measure-Revised,* averaged together

the correlations broken down by subscales

Table 4. Meta-Analysis Results for Correlations Between Ethnic Identity and Outcome Variable

Analysis	K	N	r (CI95)	SDr		SDrho	80% Credibility LL	UL	% Variance
Academic Achievement	6	1202	0.08 (05, .11)	.10	0.09	0.09	-0.02	0.21	45%
Academic Attitudes	5	790	0.26 (.16, .36)	.26	0.32	0.31	-0.07	0.72	8%
Positive Outcomes	3	674	0.26 (.23, .29)	.04	0.34	0.00	0.34	0.34	100%
Internalizing Problems	4	662	-0.09 (-.06, -.12)	.07	-0.11	0.00	-0.11	-0.11	100%
Externalizing Problems	8	1683	-0.04 (-.08, - .00)	.16	-0.05	0.17	-0.27	0.17	20%
Self-Esteem	12	3,666	.22 (.21, .23)	.09	.27	.08	.17	.37	41%

Note: % Var. = Percent of variance attributable to all artifacts $k=$ number of studies, $N=$ total sample size, $r=$ correlation*, CI95=* 95% of scores will lie between the two correlations, *SDr=* standard deviation after *removing* sampling error, rho=correlation after correcting for sampling error and reliability, SDrho= standard error after correcting for reliability and sampling error, 80% credibility= lower and upper distribution values.

Table 5. Review of Correlations by Article for the Relationship between Ethnic Identity and Academic Achievement

Study	N	r	Ethnic Identity Measure
Chang & Le (2010)	125	0.24	MEIM (Phinney, 1992)
Dejud (2007)	131	0.17	MEIM (Phinney, 1992)
Fugligni, Witkow, & Garcia (2005)*	241	0.05	MIBI (Sellers et. Al, 1997)
Guzman, Santiago-Rivera, & Haase (2005)	222	0.04	MEIM (Phinney, 1992)
Sandoval (1997)	136	-0.16	Acculturation and Ethnic Identity Scale (Keefe & Padilla, 1997)
Schwartz, Zamboanga, & Jarvis (2007)	347	0.12	MEIM-R (Roberts et al., 1999)

Table 5. Review of Correlations by Article for the Relationship between Ethnic Identity and Academic Achievement (continued)

Study	N	r	Outcome Variable/Measure
Chang & Le (2010)	125	0.24	GPA
Dejud (2007)	131	0.17	GPA
Fugligni, Witkow, & Garcia (2005)*	241	0.05	GPA
Guzman, Santiago-Rivera, & Haase (2005)	222	0.04	GPA
Sandoval (1997)	136	-0.16	GPA
Schwartz, Zamboanga, & Jarvis (2007)	347	0.12	Self-reported academic performance (e.g., 0-9 scale)

Note: N= total sample size*; r*=correlation between ethnic identity and the outcome variable; MIBI=The Multidimensional Inventory of Black Identity; MEIM= The Multigroup Ethnic Identity Measure * averaged together the correlations broken down by subscales

Table 6. Review of Correlations by Article for the Relationship between Ethnic Identity and Academic Attitudes

Study	N	r	Ethnic Identity Measure
Boveja (2000)	133	0.60	MEIM (Phinney, 1992)
Guzman, Santiago-Rivera, & Haase (2005)	222	0.16	MEIM (Phinney, 1992)
Sandoval (1997)	136	-0.20	Acculturation and Ethnic Identity Scale (Keefe & Padilla, 1997)
Schwartz et al. (2009)	227	0.45	MEIM-R (Roberts et al., 1999)
Shin, Daly, & Vera (2007)	72	0.22	MEIM (Phinney, 1992)

Note: N= total sample size*; r*=correlation between ethnic identity and the outcome variable; MEIM= The Multigroup Ethnic Identity Measure; MEIM-R=The Multigroup Ethnic Identity Measure-Revised; High scores on all measures reflect positive attitudes toward learning

Table 6. Review of Correlations by Article for the Relationship between Ethnic Identity and Academic Attitudes (continued)

Study	Outcome Variable
Boveja (2000)	Academic Attitudes (e.g., "I would rather not be in school.")
Guzman, Santiago-Rivera, & Haase (2005)	Attitudes Toward Learning (e.g., "I only study the subjects I like.")
Sandoval (1997)	Academic self-concept (e.g., "I am good at most academic subjects.")
Schwartz et al. (2009)	School Functioning (e.g., "Doing well in school is important to me.")
Shin, Daly, & Vera (2007)	School Engagement (e.g., questions about attitudes toward learning, teaching, etc.)

Note: N= total sample size*; r*=correlation between ethnic identity and the outcome variable; MEIM= The Multigroup Ethnic Identity Measure; MEIM-R=The Multigroup Ethnic Identity Measure-Revised; High scores on all measures reflect positive attitudes toward learning

Table 7. Review of Correlations by Article for the Relationship between Ethnic Identity and Internalizing Problems

Study	N	r	Ethnic Identity Measure
Dejud (2007)	131	-0.11	MEIM (Phinney, 1992)
Kiang, et al. (2006) *	216	-0.08	MIBI (Sellers et al., 1997)
Sieger & Renk (2007)	42	-0.33	MEIM (Phinney, 1992)
Umaña-Taylor & Updegraff (2007) *	273	-0.05	EIS (Umaña-Taylor, et al., 2004)

*Note: N= total sample size; r=correlation between ethnic identity and the outcome variable; MIBI=The Multidimensional Inventory of Black Identity; EIS=Ethnic Identity Scale; MEIM=The Multigroup Ethnic Identity Measure, * averaged together multiple outcome correlations*

Table 7. Review of Correlations by Article for the Relationship between Ethnic Identity and Internalizing Problems (continued)

Study	Outcome
Dejud (2007)	Depressive Symptoms (e.g., "I feel sad much of the time.")
Kiang, et al. (2006) *	Anxiety (e.g., "I often feel nervous.")
Sieger & Renk (2007)	Internalizing Problems (e.g., Is afraid of going to school.")
Umaña-Taylor & Updegraff (2007) *	Depressive Symptoms (e.g., "I could not get going.")

*Note: N= total sample size; r=correlation between ethnic identity and the outcome variable; MIBI=The Multidimensional Inventory of Black Identity; EIS=Ethnic Identity Scale; MEIM=The Multigroup Ethnic Identity Measure, * averaged together multiple outcome correlations*

Table 8. Review of Correlations by Article for the Relationship between Ethnic Identity and Externalizing Problems

Study	N	r	Ethnic Identity Measure
Arbona, Jackson, McCoy, & Blakely (1999)	188	0.26	Items from MEIM (Phinney, 1992)
Luther (2008)*	149	0.02	MEIM (Phinney, 1992)
Niemeier (2006)*	309	-0.01	MEIM (Phinney, 1992)
Samaniego & Gonzales (1999)	214	0.02	MEIM (Phinney, 1992)
Schwartz et al. (2009)*	227	-0.23	MEIM-R (Roberts et al., 1999)
Schwartz, Zamboanga, & Jarvis (2007)	347	-0.03	MEIM-R (Roberts et al., 1999)
Sieger & Renk (2007)	42	-0.55	MEIM (Phinney, 1992)
Umaña-Taylor et al. (2011)	207	-0.17	EIS (Umaña-Taylor, et al., 2004)

*Note: N= total sample size; r=correlation between ethnic identity and the outcome variable; EIS=The Ethnic Identity Scale; MEIM-R= The Multigroup Ethnic MEIM= The Multigroup Ethnic Identity Measure; Identity Measure Revised, * averaged together multiple outcome correlations*

Table 8. Review of Correlations by Article for the Relationship between Ethnic Identity and Externalizing Problems (continued)

Study	Outcome
Arbona, Jackson, McCoy, & Blakely (1999)	Fighting Attitudes (e.g., "If I walked away from a fight, I would be a coward.")
Luther (2008)*	Substance Use (e.g., How many times have you used ….)
Niemeier (2006)*	Risk of Substance Use (e.g., "How many of your friends drink (alcohol) regularly?")
Samaniego & Gonzales (1999)	Delinquency (e.g., "How many times in the past three months have you been involved in a gang.")
Schwartz et al. (2009)*	Cigarette, Alcohol & Drug Use (e.g., "I have smoked marijuana.")
Schwartz, Zamboanga, & Jarvis (2007)	Externalizing Symptoms (e.g., "I break rules at home.")
Sieger & Renk (2007)	Externalizing Problems (e.g., "He/she commits acts of vandilism.")
Umaña-Taylor et al. (2011)	Risky Behaviors (e.g., How many contacts did you have with the police in the past year.")

*Note: N= total sample size; r=correlation between ethnic identity and the outcome variable; EIS=The Ethnic Identity Scale; MEIM-R= The Multigroup Ethnic MEIM= The Multigroup Ethnic Identity Measure; Identity Measure Revised, * averaged together multiple outcome correlations*

CHAPTER IV

DISCUSSION

Although theories of identity formation suggest that the development of ethnic identity should be associated with positive psychological outcomes among U.S. Latina/o youth (Gonzales et al. 2009; Quintana & Scull, 2009, Umaña-Taylor, et al., 2013), research findings does not uniformly support this idea (Acevedo-Polakovich et al., 2014). When research has examined the relationship between ethnic identity and adjustment variables such as academic success, self-efficacy, self-esteem, internalizing behaviors (e.g., anxiety), and externalizing behaviors (e.g., substance abuse, delinquency), the results have varied. Some findings support a positive relation between ethnic identity results and positive adjustment, while others find no relation—and occasionally a negative one–between ethnic identity and adjustment (Gonzales et al., 2009; Umaña-Taylor, 2011).

Hoping to bring some clarity into this area of research, the current investigation provides a meta-analytic synthesis of previous research examining the relationship between ethnic identity and various dimensions of academic success and psychological health. A primary goal was to gain a better understanding of the strength of the relationship between ethnic identity and various psychological health variables among U.S. Latina/o adolescents. We specifically examined sources of variability in the relation between ethnic identity and psychological adjustment using moderator analyses to identify conditions that influence the strength of the overall correlation. This chapter discusses the implications of current findings for future research and practice. The discussion is organized into several subsections, each addressing the relation between ethnic identity and one specific domain of psychological adjustment.

The Relationship between Ethnic Identity and Self-Esteem

The first analysis investigated the relationship between ethnic identity and self-esteem. Self-esteem is the most widely studied outcome variable in research examining the relation between ethnic identity and psychological adjustment among U.S. Latina/o youth (Adomako & Acevedo-Polakovich, 2011). Results of this analysis suggest that ethnic identity is a strong predictor of self-esteem among this population. As with most other domains of psychological health included in the study, results suggest that the exploration of factors that moderate the relation between ethnic identity and self-esteem is an important direction for future research.

Unlike the other domains of psychological health being considered in this study, in the case of self-esteem there were enough studies available to examine the potential moderating role of two study characteristics: The specific measure of ethnic identity utilized and the difference between peer-reviewed and non-peer-reviewed papers. Not all scales that assess ethnic identity measure the same components of the construct (Ponterotto & Park-Taylor, 2007). In the current study, we were able to compare studies that utilized the Multi-group Ethnic Identity Measure (MEIM; Phinney & Ong, 2007) to studies that used other approaches to assessing ethnic identity. The MEIM is arguably the most widely used instrument to assess ethnic identity among U.S. Latina/o adolescents (Acevedo-Polakovich et al., in press). Results document a stronger relationship between ethnic identity and self-esteem when measures other than the MEIM were used to measure ethnic identity (e.g., Ethnic Identity Scale (EIS) and Multidimensional Inventory of Black Identity (MIBI). When looking at the studies that utilized other measurement tools other than the MEIM, variance was 100% attributable to sampling and measurement error when evaluating the moderating effects of the instrument used When different versions of the MEIM were used the relationship between ethnic identity and self-esteem decreased, and the overall

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percentage of variance attributable to sampling and measurement error decreased. This suggests that the decisions to use the MEIM vs. another assessment of ethnic identity in research on the relation of this construct to self-esteem will have important implications for the strength of the relationship.

The moderating effect of the peer-reviewed status was observed. Due to the tendency to disproportionately accept articles that support existing theory and show statistically significant results for peer-reviewed publication, a moderator analysis was conducted comparing peer-reviewed status to assess for a potential publication bias (Card, 2011). Consistent with the literature regarding publication bias, peer-reviewed articles demonstrated a stronger relationship between ethnic identity and self-esteem (Card, 2011). Additionally, low levels of variance accounted for by sampling and measurement error suggest that the relation observed in published studies was affected by other third party variables, more so than in unpublished studies. This illustrates the importance of including both unpublished and published articles in the literature in order to obtain a true picture of the relationship between ethnic identity and outcome variables.

Due to limited descriptive statistics presented in the literature, further moderator analyses were not conducted. The effect of sample characteristics such as age, generational status, gender, and location of the sample on the relationship between ethnic identity and self-esteem should be investigated. It is hypothesized some of these variables would moderate the observed relation between these two variables. Sample characteristics such as age might suggest at what age levels ethnic identity begins to be strongly associated with self-esteem. Such information would be useful when developing treatment and preventive programs for children.

The Relationship between Ethnic Identity and Positive Outcomes

The second analysis compiled a total of three studies to assess the relationship between ethnic identity and positive outcomes. Given that ethnic identity is identified as a form of social identity (Tajfel, 1981), it would be hypothesized that U.S. Latina/o youth that identified with and developed a sense of belonging to a cultural group, would tend to report high levels of positive indicators of psychological health. The current results suggest that ethnic identity is a significant predictor of overall happiness, level of confidence in ability (i.e. self-efficacy), and tendencies to exhibit prosocial behaviors (e.g., sharing, helping). Two cautions are warranted in explaining this analysis. First, it should be noted that—given the large number of studies that examined the relation between ethnic identity and self-esteem—a separate set of analyses was run to examine the said relation. Second, although findings were statistically significant, there were only three studies included in the analysis, thus results should be interpreted with caution.

Current findings suggest that more research needs to be conducted to examine the relation between ethnic identity and indicators of adaptive psychological health. As with other domains of psychological health examined in this study, special attention is warranted to moderators of this relation. These include the specific domain of ethnic identity being considered, the specific type of indicator, and characteristics of the sample.

The Relationship between Ethnic Identity and Academic Achievement

Current results indicate that ethnic identity is not a strong predictor of academic achievement ($r=.08$). The findings of existing empirical research suggesting that contextual and individual factors impact this relationship (e.g., Supple et al., 2006; Schwartz et al., 2007) help provide an explanation for the wide range of correlations between ethnic identity and academic

achievement reported by the studies meeting criteria for inclusion in this meta-analysis. Particularly, individual factors (e.g., self-esteem, conscientiousness, acculturative stress, ethnic socialization, etc.) and environmental factors (e.g., learning environment, support in the home, etc.) seem to influence the relationship between ethnic identity and academic performance in U.S. Latino/a youth (Schwartz et al., 2007; Supple et al., 2006; Umaña-Taylor, et al., 2013). For example, Schwartz et al. (2007) demonstrated mediating effects of self-esteem on the relationship between ethnic identity and academic achievement; concluding that the relationship may be a function of individual traits. Current results suggest that, on average, the direct relation between ethnic identity and academic achievement is not a particularly strong one. In light of these findings, future research might do well to focus on identifying the conditions under which ethnic identity affects academic achievement. As this study did not examine the relation between each of the various domains of ethnic identity and academic achievement, research looking into such a question might be particularly informative.

For instance, factors such as generational status have been associated with greater academic performance (Hill & Torres, 2010). Additionally, future research investigating the relationship between ethnic identity and personality characteristics associated with academic performance would also be essential in identifying important skill sets to teach U.S. Latina/o youth (Fuligni et al., 2005). Research assessing performance in various academic classes as opposed to overall achievement, such as GPA may also provide insight as to whether higher levels of ethnic identity are associated with performance in all or select subjects.

The Relationship between Ethnic Identity and Academic Attitudes

While ethnic identity was not a strong predictor of academic achievement, current results pointed to a significant positive relationship between ethnic identity and academic attitudes. These findings suggest that U.S. Latino/a youth who explore their cultural heritage, come to an understanding of what ethnic identity means to them, and feel a sense of belonging and attachment to a specific group are more likely to report positive attitudes about school and learning. Two things should be noted when interpreting these results. One, it should be noted that, despite this significant relation, a large amount of variance remained after correcting for sampling and measurement error, highlighting that ethnic identity is not solely accountable for the development of attitudes toward learning. Second, only one study reported correlations that were lower than $r = .16$ (i.e., Sandoval, 1997; correlation with academic self-concept, $r = -.09$). As such, it seems likely that the inclusion of this outlying study disproportionately influenced the overall results. In fact, removing this outlier would render an effect size that would be classified as high by existing conventions.

These findings are consistent with existing theoretical perspectives on ethnic identity; suggesting that ethnic identity is associated with positive academic attitudes (Acevedo-Polakovich, Chavez-Korell, & Umaña Taylor, 2013; Gonzales et al. 2009; Quintana & Scull, 2009). It should be noted, however, that the findings from recent research point to a nuanced relationship between ethnic identity and academic attitudes. For instance, Acevedo-Polakovich et al. (2014) found that—among Latina/o high school students—the strength of the relation between ethnic identity and academic attitudes changes at different levels of American identity.

Given the demonstrated importance of academic attitudes on academic achievement and persistence (Guzman, Santiago-Rivera, & Haase, 2005), and considering the significant

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challenges that U.S. Latina/o youth face in regard to each of these last two variables (Acevedo-Polakovich et al., 2014), future research is warranted that identifies the conditions under which ethnic identity is maximally related to academic attitudes and—in turn—the extent to which these variables are related to academic outcomes.

The Relationship between Ethnic Identity and Internalizing Problems

Current results suggest that ethnic identity is not significantly related to the internalizing domain of mental illness among U.S. Latina/o youth. As with other domains of psychological health examined in this study, there was some variation among the effect sizes produced by different studies, which suggest that one important direction for future research will be the examination of factors that moderate the strength of this relation.

The Relationship between Ethnic Identity and Externalizing Problems

Current results suggested a weak negative correlation between ethnic identity and externalizing problems. As with other domains of psychological health examined in this study, there was some variation among the effect sizes produced by different studies, which suggest that one important direction for future research will be the examination of factors that moderate the strength of this relation.

In addition to the moderating factors broadly applicable to research examining the relation between ethnic identity and psychosocial outcomes, the available literature points to a few moderating factors that are specifically relevant when considering the externalizing domain of mental health. The generational status of U.S. Latina/o adolescents is associated with different patterns of risky behavior and academic outcomes (Fuligni & Perreira, 2009), suggesting that future research in this area would do well to examine generational status. Because ethnic identity

develops throughout adolescence, its relation to psychological adjustment may also change as U.S. Latinas/os grow older (Quintana& Scull, 2009), suggesting that looking at age or age group as a moderating factor is also of importance.

<div align="center">Implications for Practice</div>

The current analyses provide information that can help clinicians in practice who work with Latina/o youth. While results suggest that ethnic identity is related to some indicators of psychological well-being and to academic outcomes, high levels of variability suggest that ethnic identity is not solely accountable for the development of positive psychological and academic outcomes. While it is important for practitioners to recognize the role that ethnic identity may play in overall functioning, they must also be aware that there are a number of variables that moderate the aforementioned relationships.

The results of the analyses examining the relation between ethnic identity and academic variables highlight the important role that ethnic identity plays in the development of attitudes toward school. Previous research has identified individual and environmental factors that influence the relationship between ethnic identity and academic variables (Schwartz et al., 2007, Supple et al., 2006; Umaña-Taylor, et al., 2013).

Practitioners who wish to assist Latina/o youth may also focus on developing and strengthening individual variables such as self-esteem, leadership, responsibility, and other positive asset variables that have been shown to be associated with higher levels of academic success (Acevedo-Polakovich, et al., 2013).

A significant relation between ethnic identity and positive outcomes was observed in the current analysis, and psychologists should integrate ethnic identity development when working

with U.S. Latino/a youth exhibiting behavioral and social problems. Previous research demonstrates ethnic identity to be associated with value-based outcomes such as self-esteem, which has been demonstrated to function as a protective factor against poor psychological adjustment variables among this population (Schwartz et al., 2007). The results of the current study reflect previous research and suggest ethnic identity to be significantly related to one's perception of themselves and abilities. Because of the contribution of self-esteem, ethnic identity and self-esteem should be targeted when working with U.S. Latina/o youth in an effort to decrease the likelihood of adverse outcomes. In doing so, it would be important to foster the development of assets associated with positive psychological and academic outcomes and provide U.S. Latina/o youth with tools to promote success and positive coping strategies (e.g., leadership, self-esteem, and responsibility; Acevedo-Polakovich, et al., 2013). Utilizing a preventive approach to teaching skills that facilitate and foster positive development in youth (e.g., leadership and responsibility) will likely lead to positive outcomes (Acevedo-Polakovich, et al., 2013). The development of preventive programs that focus on building individual assets identified in the literature as being associated with positive outcomes in U.S. Latina/o youth may not only increase resilience and build self-esteem, it may also increase the effectiveness of such programs (Acevedo-Polakovich et al., 2013).

The results of the current study also suggest that ethnic identity is not significantly related to the internalizing and externalizing domains of mental illness among U.S. Latina/o youth. Thus, ethnic identity may not be an important concern in the treatment for those whom exhibit externalizing and/or internalizing problems.

While theories of ethnic identity formation among U.S. Latina/o youth have focused on identifying with one's cultural heritage, recent research suggests that those who explore and

understand their membership to both their ethnic heritage and the American culture, tend to excel in a variety of settings (e.g., school and overall well-being; Acevedo-Polakovich et al., in press). Thus, helping Latina/o youth understand how they identify with their cultural and non-cultural heritages (e.g., biculturalism) may increase the likelihood of academic success and may also influence overall well-being (Acevedo-Polakovich et al., in press).

Strengths and Limitations

One strength of meta-analytic research is the ability to clarify the relationship between two variables when individual studies have produced inconsistent findings (Card, 2011; Myers, 1991). Specifically, a meta-analysis gives a more accurate estimate of the overall effect size than an individual study. In addition, meta-analyses allow for the testing of theoretically relevant moderators gathered from multiple studies (Hunter & Schmidt, 2004). The current study provides insight regarding the strength of the relationship between ethnic identity and previously researched outcome variables. It also provides an improved understanding of ethnic identity's role in the psychological health of U.S. Latina/o youth.

A strength that is unique to the current analysis is that it is one of the first studies to systematically combine the inconsistent literature surrounding the relationship between ethnic identity and psychological well-being in the U.S. Latino/a youth population. This study addressed an important question regarding to which degree does ethnic identity impact outcomes of psychological health. Additionally, the high levels of variance observed within the analyses indicate that the relationship between ethnic identity and psychological well-being is dependent on other variables, highlighting the need for future research investigating moderating variables.

While there are a number of strengths of the current study, it is of importance to note that the current meta-analysis contains a number of limitations. First, although meta-analyses pose a number of advantages, there are also disadvantages to this type of method. One limitation pertaining to meta-analyses in general is the inability to infer causality. Rather, results of meta-analyses depict relationships between two variables; experimental research is needed to assess the causality nature of the variables of interest. For example, although ethnic identity is theoretically described as a predictor of psychological or academic outcomes, it may be that psychological outcomes and/or academic success may be related to one's identity formation. Second, meta-analyses are utilized to gain a clearer understanding of the relationship between two variables of interest, especially when findings are inconsistent (Card, 2011). However, because studies differ on a number of dimensions, it is often difficult to combine studies into one analysis because individual studies often consist of diverse samples, utilize different measurement strategies, define concepts differently, analyze results differently; resulting in researchers developing separate, smaller, analyses (Card, 2011). While this may not be an issue with topics that are highly researched, it may pose a problem for topic areas or populations where research is lacking. Small sample sizes may not yield an accurate representation of the relationship, and may not contribute to the literature by recommending questions to be answered in future research (Card, 2011).

The first limitation to the current meta-analysis is the small number of studies (k) in each analysis. Meta-analyses including a small number of studies are less reliable than those including numerous studies, largely due to a small sample size (Card, 2011; Hunter & Schmidt, 2004). Although research on U.S. Latino/a youth is limited, a large number of studies were excluded from this study because authors failed to report essential statistical information. In particular, a

total of 21 studies were not included in this study because the correlation between ethnic identity and the outcome variable of interest was not reported for the Latin/o sample only or could not be converted with the information provided. This was often the case for studies that employed more complex statistical analyses in their studies (e.g., pathway analyses, regression analyses). In some instances, researchers reported the correlation describing the relationship between ethnic identity and the psychological outcomes observed, but failed to do so for the U.S. Latino/a youth included in the sample. Because majority of prior research examining the relationship between ethnic identity and psychological outcomes involved a diverse subject pool, authors often reported statistical information qualitatively rather than separately for each ethnic group. In order for ethnic identity to be studied across demographics, future researchers should report correlations for both the overall sample and for each specific demographic group included in a study.

A second limitation is that we did not evaluate the effects of potential moderating variables contributing to the high levels of variability observed in majority of the primary analyses discussed above (e.g., academic attitudes, academic achievement, and positive outcomes, internalizing problems, and externalizing problems). One reason why moderator variables were not analyzed is because authors did not consistently collect or report descriptive statistics pertaining to their study. In some cases where authors reported such information, the descriptive information did not reflect the U.S. Latino/a population singularly (i.e., studies with diverse samples reported descriptive statistics reflecting the entire sample as opposed to ethnic group individually). Such variables of interest that were not consistently reported for the Latina/o population only include age, gender, generational status, and racial composition. Of the studies included across analyses 10 reported information regarding age, 15 reported gender, 13

reported generational status, 14 reported racial composition. Location was not analyzed because there were not enough studies in each analysis to create meaningful categories. Furthermore, samples were often collected from similar geographical regions. The inability to analyze the effects of such moderator variables, limited our ability to provide insight as to why correlations of ethnic identity and psychological outcome variables vary in the literature. However, this opens an opportunity for future research to investigate such effects.

A third limitation is that psychometric data for the independent and dependent measures used in the included studies were not consistently reported. Specifically, internal consistency co-efficient alphas were either calculated with the entire sample or the Latina/o sample only. In some studies the coefficient alphas of the original, normative study sample were reported. In other studies, coefficient alphas were not reported at all. To gain an idea of the effect of measurement error on the relationship between ethnic identity and the investigated outcomes variables, we included the coefficient alphas that were reported by the authors. In relation to the independent variable, 3 studies reported alpha coefficients for the full sample, 14 studies reported alpha coefficients for the Latino/a sample only, and 2 studies reported alpha coefficients reflecting the original sample. In relation to the outcome variables, 3 studies reported alpha coefficients for the full sample, 13 studies reported alpha coefficients for the Latino/a sample only, 2 studies reported alpha coefficients reflecting the original sample, and 1 study did not report an alpha coefficient for the outcome measure. Thus, the correlations reported after correcting for measurement error should be interpreted in light of the inconsistencies in computing alpha.

A fourth limitation of this study is the low number of unpublished studies that were included in this meta-analysis. While multiple attempts were made to identify unpublished

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studies such as emailing researchers in the field, sending emails through list serves, and searching dissertation databases, 6 unpublished studies met the inclusion criteria. Unpublished or studies with non-significant findings are often difficult to find due to a publication bias (i.e., tendency to publish significant findings and reject studies with non-significant findings). It is important for future meta-analytic researchers to make an effort to track such research to ensure our analyses are a true reflection of the relationship between these variables. Additionally, a limitation of meta-analytic research as whole is that it limits the type of research that can be included in such analyses (e.g., case studies; Card, 2011).

A fifth limitation of this study is that range restriction was not corrected. Direct range restriction is when there is a direct limitation on the independent variable, while indirect range restriction refers to when a sample is restricted on a variable that may be related to the independent variable (Hunter & Schmidt, 2004). The current analyses observed indirect range restriction because they are not variables used for computing the meta-analysis, but may be related to the variables used for computing the meta-analysis. While a few studies restricted the range of their sample (e.g., included only pregnant women), some restricted their sample based on a variable of interest for this particular study, such as age. For example, in analysis four Sieger and Renk's (2007) sample consisted of only pregnant females. While pregnant women may be more likely to perform poorly in school, it is not a variable that directly is associated with the independent variable. When data is uncorrected for range restriction, the corrected meta-analytic correlation is lower than for data that is corrected for range restriction. Thus, the corrected correlations here may reflect conservative estimates of the true effect size, but this bias is not likely to be very large with indirect range restriction (Hunter & Schmidt, 2004).

A sixth limitation is that for some studies an average correlation was computed and used in the meta-analysis. For example, for studies that reported ethnic identity separately for each subscale included on the ethnic identity measure used, the three correlations were averaged together, resulting in one correlation. A total of 12 studies reported the results in such a way and the correlations were averaged together. Averaging the three correlations is only an estimate, thus the results should be interpreted lightly.

Conclusion

Ethnic identity has been identified as a predictor of psychological outcomes in the U.S. Latina/o youth population (Gonzales et al. 2009; Quintana & Scull, 2009). The current meta-analysis analyzed the relationship between ethnic identity and various variables of psychological health and academic outcomes. Consistent with previous research, results of these analyses suggest that ethnic identity is positively associated with well-being in U.S. Latino/a youth, specifically academic attitudes, positive outcomes, and self-esteem (e.g., Fuligni et al., 2005; Swartz et al., 2007). Furthermore, these results are consistent with early theoretical research regarding the relationship of ethnic identity and psychological functioning among Latino/a youth (Gonzales et al. 2009; Quintana & Scull, 2009, Umaña-Taylor et al., 2013). Large amounts of variability observed in the aforementioned analyses indicate that the relationship between ethnic identity development and positive psychological outcomes in this population is moderated by other variables. Thus, this study provides evidence that future research in needed to continue conducting research that investigates variables that moderate the relationship between ethnic identity and psychological outcome variables. Lastly, findings of this study highlight the importance of reporting detailed statistical information and study characteristics. Failure to report

such information limits our ability to gain a clear and accurate understanding of the conditions in which ethnic identity impacts psychological health in U.S. Latina/o youth.

APPENDIX A

SAMPLE CODING SHEET

Researcher _____   **Study ID#_____**

□ Adverse Mental Health (Neg. Beh.)_____

□ Mental Health (Attitudes) _____

 □ Academic Outcomes_____

□ More than one (Specify)_____

StudyCitation:_____
_____
_____
_____

Study reference:
□: 1) Published (Journal) □: 2) Unpublished
Year of Collection_____

Sample
_____**: #** of Latino/a Sample (N)

Mean Age:_____

_____Female _____Male

□ Total □ Latina/o sample

Gender Comp for **LATINO/A** Sample
_____: 1) % male #_____
_____: 2) % female #_____
_____: 3) N/A

Generational Status (%)
_____Immigrant _____ 1st
_____ 2nd _____ 3rd
Other:_____

Racial composition
_____: 1) Mexican (Chicano, Mexican
      American)
_____: 2)Puerto Rican (Nuyorican)
_____: 3) Cuban (Cuban American)
_____: 4)Dominican
_____: 5) Panethnic Term (Hispanic,Latino)
      Specify_____
    1) Sample Selected from:

        _____
_____: 6)_____
_____: 7) _____

How is ethnic identity defined?

Location
2) Proportion of Latino/as in
   geographic loc.

   _____

3) Cultural Region (Map)
   _____

Ethnic Identity Measure & Alpha
□ MEIM (Phinney, 92)   _____
    □ Full   □ L Sample □ Orig.
□ MEIM-R (Roberts & Phinney, 99)
_____
    □ Full   □ L Sample □ Orig.
□ MEIM-R (Phinney,2007)   _____
    □ Full   □ L Sample □ Orig.
□ EIS (Umana-Taylor, et. al, 2004) _____
    □ Full   □ L Sample □ Orig.
□ Modified Version w/citation
Scale:_____
_____
Alpha:_____ □ Full □ L Sample □ Orig.
Subscales Used_____

□Other w/citation:

   _____
 Alpha:_____ □ Full □ L Sample □ Orig.

     Full Scale   __Yes __No

If not, Subscales
used:_____

_____**Mean**   _____SD

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Outcome Measure (Name & Citation) Alpha_____   □ Full □ L Sample □ Orig.

_____

Outcome Measure (Name & Citation) Alpha_____   □ Full □ L Sample □ Orig.

_____

Outcome Measure (Name & Citation) Alpha_____   □ Full □ L Sample □ Orig.

_____

	Outcome_____	**Outcome_____**	**Outcome_____**
Ethnic Identity FS _____	FS Correlation:_____ Mean_____ SD_____	FS Correlation:_____ Mean_____ SD_____	FS Correlation:_____ Mean_____ SD_____
MEIM	**Affirmation Correlation_____** M_____ SD _____ **Achievement Correlation _____** M_____ SD _____ **Behaviors Correlation_____** M_____ SD _____	**Affirmation Correlation_____** M_____ SD _____ **Achievement Correlation _____** M_____ SD _____ **Behaviors Correlation_____** M_____ SD _____	**Affirmation Correlation_____** M_____ SD _____ **Achievement Correlation _____** M_____ SD _____ **Behaviors Correlation_____** M_____ SD _____
MEIM-R	**Exploration Correlation _____** M_____ SD _____ **Commitment Correlation_____** M_____ SD _____	**Exploration Correlation _____** M_____ SD _____ **Commitment Correlation_____** M_____ SD _____	**Exploration Correlation_____** M_____ SD _____ **Commitment Correlation _____** M_____ SD _____
EIS (Umana)	**Affirmation Correlation_____** M_____ SD _____ **Exploration Correlation _____** M_____ SD _____ **Resolution Correlation _____** M_____ SD _____	**Affirmation Correlation_____** M_____ SD _____ **Exploration Correlation _____** M_____ SD _____ **Resolution Correlation _____** M_____ SD _____	**Affirmation Correlation_____** M_____ SD _____ **Exploration Correlation _____** M_____ SD _____ **Resolution Correlation _____** M_____ SD _____

Special Considerations/Additional Notes/Things to E-mail

_____
_____
_____
_____

Questions to Ask:

_____
_____
_____

Additional Outcome Measures:
Measure 1 name, citation, and alpha in current Latina/o sample

_____

Mean in Latina/o Sample: ____ SD in Latina/o Sample: ___

Correlation with EI full scale measure in Latina/o Sample: _____

Correlation with components of EI from the MEIM
____Affirmation _____ Achievement _____ Behaviors   M_____ SD_____
Correlation with the components of EI from the MEIM-R   M_____ SD_____
____Exploration _____ Commitment
Correlation with components of EI from the Ethnic Identity Scale (EIS) M_____ SD_____
____Exploration _____ Affirmation _____ Resolution

Other Measure: _____
Component_____ Correlation _____ M_____ SD_____
Component_____ Correlation _____ M_____ SD_____
Measure 2 name, citation, and alpha in current Latina/o sample

_____

Mean in Latina/o Sample: ____ SD in Latina/o Sample: ___

Correlation with EI full scale measure in Latina/o Sample: _____

   Correlation with components of EI from the MEIM
   ____Affirmation _____ Achievement _____ Behaviors   M_____ SD_____
   Correlation with the components of EI from the MEIM-R   M_____ SD_____
   ____Exploration _____ Commitment
   Correlation with components of EI from the Ethnic Identity Scale (EIS) M_____ SD_____
   ____Exploration _____ Affirmation _____ Resolution

Other Measure: _____
Component_____ Correlation _____ M_____ SD_____
Component_____ Correlation _____ M_____ SD_____
Component_____ Correlation _____ M_____ SD_____

Ethnic Identity Definition:

Type of Outcome:

Adverse Mental Outcomes – these are those behaviors that are risky, detrimental to health, problem behaviors. Examples are_____

Psychological Health- these are those most typically referred to as positive outcomes/attitudes that are not school-related. Examples are _____

Academic – These are those that measure performance such as GPA/performance measures/attitudes towards school (for now).

Cannot tell – you just don't feel very good about putting anything definitive down.

* Note: If correlations are not presented for Latino/a sample, we have to e-mail. We cannot use them for the full sample, same for SDs & Means

Decision Rule: Ethnic identity must be measured. If they are referring to ethnic identity as ethnic labeling, do not use that study. NOTE: we are only using studies that ethnic identity is related to outcomes, not those that influence ethnic identity. For example, impact of ethnic identity on self-esteem, not how self-esteem or GPA affects ethnic identity.

Decision Rule: If a study breaks down Substance/Drug Abuse by each drug, use the total drug/substance use correlation, not individual correlations w/specific drugs.

Decision Rule: If the sample of Latina/os is broken down, report the correlation for the whole sample (example mono/biracial or full sample/ we want to use the full sample)

Decision Rule: If a study breaks down academic related outcomes into attitudes, check academic outcomes, we can include those, however be careful they are not reporting peer attitudes/parent involvement in the same correlation as well.
Decision Rule: Do not report mean ages for full sample ONLY Latino sample because we will try and e-mail for that information if we have to. Also, convert percentages to numbers for Latino Sample only

Tip: Many of the studies are reporting beta weights, doing path analyses, or reporting hierarchical regression. We ONLY record the basic correlation (inter-correlations, Pearson r, or standardized beta ONLY if it was not entered into a hierarchical/multiple regression. If studies ONLY report multiple regressions/hierarchical regression or path analyses, etc., we cannot use that information. We must either:
            Calculate r by converting the means and standard deviations to Cohen's d, then correlation, some can be converted just using means and standard deviations, and chi squares also need to be converted as well. See effect size calculator. Make sure you calculate this before recording any correlation (the calculated effect size is what you record on the coding sheet). If there are some statistics that you are unsure of how to convert it, please see me.

Criteria Description
__ Reports on the results of empirical data collected from Latina/o adolescents ages 12-17.
__ Includes some measurement of ethnic identity.
__ Measures a correlate of ethnic identity.

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