Evidence for the Construct Validity and Reliability of the Co-Cultural Theory Scales

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Co-cultural theory provides a theoretical framework that examines the ways that members of co-cultural groups communicate when interacting with members of a dominant culture (Orbe, 1998a). The tenants of the theory were inductively derived via phenomenological analyses of focus group and interview data. Two of the central theoretical components, preferred outcome and communication approach, have been conceptualized as general tendencies that influence communication practices by co-cultural group members within interactions with members of dominant cultural groups. This article reports on the design of a self-report measure of these two components of co-cultural theory and provides evidence from two studies for the construct validity and reliability of the co-cultural theory scales (C-CTS).

Co-cultural theory, as described by Orbe (1998a), examines the ways in which persons who are traditionally marginalized in societal structures communicate in their everyday lives. Grounded in muted group (e.g., Kramarae, 1981), standpoint theories (e.g., Smith, 1987) and phenomenology (Husserl, 1964; Lanigan, 1988), co-cultural communication theory is derived from the lived experiences of a variety of co-cultural groups, including people of color, women, persons with disabilities, gays/lesbians/bisexuals, and those with a socioeconomic status lower than the average. Methodologically, co-cultural theory emerged inductively from phenomenologically-based research. This ongoing

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process has revealed that co-cultural communication behavior is impacted by six components: field of experience, situational context, abilities, perceived costs and rewards, communication approach, and preferred outcome. This paper involves a methodological shift for testing this theory and focuses on two of the components of the theory, preferred outcome and communication approach, which have been conceptualized as fundamental to the selection of communicative practices. Specifically, the authors report on the development of a measure for these two components of co-cultural theory and provide evidence for the construct validity and reliability of the co-cultural theory scales (C-CTS).

What follows is an overview of the fundamental ideas regarding co-cultural theory and how phenomenological inquiry was used in the initial formation and subsequent tests of the theory. This discussion is followed by the results of two studies in which the authors develop a measure of the major components of co-cultural theory and assess the measurement properties of the measure.

CO-CULTURAL THEORY: AN OVERVIEW AND CONCEPTUAL DEFINITIONS

Co-cultural theory, as described by Orbe (1998a), is embedded in two theoretical assumptions: (1) Although representing a widely diverse array of experiences, co-cultural group members will share a similar positioning that renders them marginalized within society, and (2) in order to negotiate within the dominant culture and achieve any measure of success, co-cultural group members will adopt certain communication orientations in their everyday interactions.

Co-cultural theory has primarily been used to provide insight into the general approaches that various co-cultural group members take in negotiating their societal positioning in organizations (Buzzanell, 1999; Gates, 2003; Greer-Williams, 2000; Orbe, 1998c; Parker, 2003), intergroup relations (Orbe, 1997) or society generally (Hopson, 2002; Lev-Aladgem & First, 2004). Further, existing research has used a co-cultural theoretical framework to explore the communicative experiences of African Americans generally (Gates, 2003; Phillips-Goit, 1999), African American women specifically (Orbe, 1999; Parker, 2003), as well as both African Americans and Latino/as (Greer-Williams, 2000) and multiracial persons (Heuman, 2001). In addition to research on people of color, co-cultural theory has also been used as a foundation for researching other co-cultural groups, including people with disabilities (Fox, Giles, Orbe, & Bourhis, 2000; Orbe & Greer, 2000), native Hawaiians (Miu, 2001), people without homes (Harter, Berquist, Schuette, & Redepenning, 2001), Israeli women (Lev-Aladgem & First, 2004) and gay men (Kama, 2002).

In its most basic form, co-cultural theory lends insight into the process by which individual co-cultural group members negotiate their 'cultural differentness' with others (both with others like, and unlike, themselves). According to Orbe (1998a), co-cultural groups, traditionally called sub-cultural or minority groups, are a cohort of individuals who share a common cultural identity (e.g., people of color, women, people with disabilities, gay men, and so on) which in the U.S. positions them oppositionally to the dominant cultural group (e.g., European Americans, men, able-bodied persons, heterosexuals, and so on). Co-cultural theory offers a framework to understand the process by which individuals come to select how they are going to interact with others in any given specific context. While many existing interpersonal and intercultural theories offer general approaches to study such phenomena, co-cultural theory is one of only a few that is grounded in the experiences of the persons it seeks to describe.

In the early stages of research that led to the emergence of a co-cultural communication model, the focus was on specific practices that co-cultural group members used during their interactions with dominant group members. Once these communicative practices were established (Orbe, 1996), however, the focal point changed to the ways in which persons came to select certain practices over others. The result of a lengthy process of analysis (described in a later section) was the emergence of several components that interactively affect the communication behaviors of co-cultural group members. In short, the basic idea behind co-cultural theory can be summarized by the following statement:

Situated within a particular field of experience that governs their perceptions of the costs and rewards associated with, as well as their capability to engage in, various communicative practices, co-cultural group members will adopt certain communication orientations—based on their preferred outcomes and communication approaches—to fit the circumstances of a specific situation.

Communication orientation refers to a specific stance that co-cultural group members assume during their everyday interactions. According to the theory, co-cultural group members will adopt one or more communication orientations depending on a number of interrelated components. According to Orbe (1998a) communication orientation is primarily influenced by two components: preferred outcome (assimilation, accommodation, or separation) and communication approach (nonassertive, assertive, or aggressive), but is also influenced by the other four components addressed in the theory (field of experience, perceived costs and rewards, capability, and situational context). Communication approach is conceptualized as the communication style with which one interacts with dominant group members. A nonassertive approach is one in which interactants are non-confrontational, inhibited, and place the needs of others before their own. Assertive communication involves expressive behavior that considers both self
and other needs equally. The aggressive approach involves overly expressive, confrontational, and attacking communication.

Preferred outcome centers around the co-cultural group members consideration of the eventual impact of their communication with the other interactants. One preferred outcome, assimilation, involves attempts to fit in with the dominant cultural group members for changing the existing structures and development of distinctions between groups. Accommodation is a preference on the part of co-cultural group members for changing the existing structures and development of appreciation for the various cultural perspectives of those involved in an interaction. Separation involves the creation and maintenance of a group identity distinct from that of the dominant culture.

In his explication of co-cultural theory, Orbe (1998a) treats the dimensions of communication approach and preferred outcome as continuous. That is, communication approach, for example, can be thought of as ranging from non-aggressive to assertive to aggressive. Orbe (1998a) also states, however, that individuals may endorse any of these factors to a greater or lesser extent depending on characteristics of the situation and other components. Thus, a person may endorse non-assertiveness, assertiveness, and aggressiveness, to a greater or lesser extent depending on the situation, other interactants, and other components specified by the theory. Consequently, co-cultural theory suggests that co-cultural group members can assume one or more communication stances during their everyday interactions with others. This has implications for the measurement of both communication approach and preferred outcome in that each type of approach or outcome should be treated as separate factors. Thus, persons may endorse any of the dimensions of preferred outcome and communication approach to a greater or lesser extent in a given situation.

METHODOLOGICAL FOUNDATIONS OF CO-CULTURAL THEORY

Co-cultural theory, as originally described by Orbe (1998a), was developed inductively from a series of studies that examined how group members communicate within dominant societal structures. The fundamental concepts of the theory are grounded in four phenomenological research projects involving co-cultural group members from across the United States. Each of these studies have been reported previously (Ford-Ahmed & Orbe, 1992; Orbe, 1994b, Orbe, 1996; Roberts & Orbe, 1996), however, the emergence of co-cultural theory represents an advanced point of self-reflexivity where the data collected from these studies were reviewed as a means to generate new insight—and subsequently a theoretical model—into the communicative experiences of underrepresented group members. Although these studies focused on different co-cultural groups, a consistent thread ran through each of these studies. First, each study explored the communicative experiences of traditionally marginalized groups from their particular cultural standpoints. Second, each shared a common methodological framework, what has become regarded as cultural phenomenology (Orbe, 2000). A brief discussion of the methodological foundation of co-cultural theory is important to provide a context from which our current work emerged.

Cultural phenomenology (Orbe, 2000) continues a long-standing tradition of phenomenological inquiry that was inaugurated in Germany with a number of scholars, including Husserl, Heidegger, and Jaspers and continued in France by Merleau-Ponty and Sartre (Lanigan, 1979). Hermeneutic phenomenology is the study of the lifeworld (lebenswelt), the world as we immediately experience it rather than as we conceptualize or theorize it (Husserl, 1970). The phenomenological movement has been adopted by a number of scholars in the U.S. interested in exploring the communicative experiences of members of co-cultural groups (Bell, Orbe, Drummond, & Camara, 2000; Ford-Ahmed, 1992; Nelson, 1989; Orbe, 1994, 1998b; Peterson, 1992). Cultural phenomenology has been the guiding force behind co-cultural theory.

Phenomenological inquiry involves a three-step process: (a) collection of descriptions of lived experiences, (b) reduction of capta (data) into essential themes, and (c) hermeneutic interpretation of themes (e.g., Lanigan, 1979, 1988; Nelson, 1989; Orbe, 2000). Each of these steps is discussed below as is the role of these steps in the formation of co-cultural theory.

Collection

In the four foundational co-cultural communication studies, capta was collected through a battery of methods, all of which used an open-ended, inductive approach (Patton, 1983). This approach allows for a spontaneous exchange, resulting in freedom and flexibility for researchers as well as study participants (Anderson & Jack, 1991). Three specific phenomenological techniques were used in the early studies: in-depth interviews, focus group discussions, and critical incidents (Flanagan, 1954). Of the four foundational studies, only one (Orbe, 1994) used the critical incident technique. This approach, which asks participants in the study to describe past incidents that have come to reflect their general
perceptions of interactions with others, has been effective in soliciting descriptions in an efficient, timely manner. Thus, most of the capta collection within the four original co-cultural studies was generated through in-depth interviews and focus group discussions. Both in-depth interviews and focus group discussions followed a general interview guide approach (Nelson, 1989).

Reduction

The capta gathered during the first stage of phenomenological inquiry typically is registered via tape recordings and then converted to written transcripts (Nelson, 1989; Orbe, 1998a). The process of transcribing interviews is important in phenomenological reduction because it represents an opportunity for researchers to become more aware of the phenomenon as described by the study participants (Nelson, 1989). The ultimate goal of the second step in phenomenology, reduction, is to determine which parts of the description are essential and which are not (Lanigan, 1979). The end result of this reduction is the emergence of several themes that assist in giving “shape to the shapeless” (van Manen, 1990, p. 88).

Interpretation

The third step in phenomenological inquiry is interpretation. For the four studies referred to above, this included a process whereby the communicative practices describing how co-cultural group members communicated was coupled with emerging insights as to what factors influenced why certain practices were enacted over others. It was through the interpretation process that the six primary components of co-cultural theory emerged. Two particular components, communication approach and preferred outcome, emerged from analyses as most central to the selection of specific communication practices. These two components have been identified by Orbe and others (Greer & Orbe, 2001; Orbe, 1998a) as predictors of co-cultural communication behaviors. That is, preferred outcome and communication approach are believed to drive choices about particular communicative practices. Given the centrality of these constructs in co-cultural theory, attempts to construct a co-cultural measurement scale began with these two components.

NEW METHODS FOR EXAMINING CO-CULTURAL THEORY

The understanding that members of co-cultural groups might desire certain outcomes or assume various communication approaches has been derived from a critical, inductively-based analysis of qualitative data gleaned from in-depth interviews, critical incidents, and focus groups. The methodological approach of phenomenology has been particularly useful for development and refinement of co-cultural theory. To date, qualitative approaches have dominated the research on co-cultural theory. It is not the intent of this essay to reignite the debates regarding the merits of scientific and critical scholarship or of qualitative versus quantitative research (e.g., Anderson, 1996; Beatty, 1996), but to provide the rationale and foundation for the development of a self-report measure to assess the dimensions of co-cultural theory. The development of an objective measure of co-cultural theoretical constructs has been endeavored here not to supplant existing methodological approaches, but to add to the repertoire of possible ways to study the communication patterns of co-cultural group members. Using multiple methodologies can only add to our understanding of social phenomena (Jick, 1979) and expand the potential for application and advancement of co-cultural theory.

Co-cultural theory has the potential for extensive practical application and theoretical refinement but qualitative data collection and analysis procedures are cumbersome and not readily applied by researchers and practitioners alike. Relatively, the interpretive nature of the data gleaned from these methodologies means that practitioners would need extensive grounding in the theory in order to draw any conclusions about data once it was collected. Thus, additional methodologies for examination of the communication of co-cultural group members would be useful for heuristic purposes.

Lack of measurement has been shown to hinder theoretical and empirical process in various content domains (e.g., Katz, 1989). Moreover, the use of unreliable or invalid measures presents problems when trying to draw substantive conclusions regarding the results of a study (Boster, 2002). Thus, measurement, or the development of indicators of the latent variables central to social processes is foundational to replicable research (Pedhauzer & Schmelkin, 1991). In particular, communication scholars should provide evidence for the validity and reliability of new measures in order to establish a benchmark or referent for subsequent use of the measures. Many studies do not provide either reliability or validity information for the measures of theoretical constructs (Hunter & Schmidt, 1990). Not uncommonly, significant bodies of literature may be based on measurement that is later found to be flawed (for a discussion of one such problem see Levine et al., 2003a; 2003b). Thus, establishment of a measurement model prior to testing a theoretical model is recommended (Hunter & Gerbing, 1982). This paper reports on the development of a co-cultural scale designed to measure communication approach and preferred outcome and reports tests of the a priori specified measurement model. Once the measurement model is established, the relationship among the dimensions will be examined, as will the relationships between the co-cultural scales and other established measures.
STUDY 1

The first study sought to establish the measurement model with a sample of women, a group traditionally considered members of a co-cultural group in the U.S (Orbe, 1998a). This study was designed to test a measurement model for communication approach and preferred outcomes and examine the relationships among the factors in the co-cultural theory scale.

METHOD

Participants

Participants in the study included 243 students in women’s studies and communication courses at a large Midwestern university. The participants were primarily female (85%) and had an average age of 20.91 (SD = 2.46). Participants self-reported racial/ethnic background included White (87%), Asian, including Chinese, Japanese, and Korean (6%), and Black (3%). Hispanic, East Indian, and Native American participants comprised a total of 4% of the sample. For purposes of the development of the measurement model the data were aggregated across racial/ethnic group and biological sex.

Establishing the Measurement Model

Construct validity assessments may take the form of both logical/content-based assessments and statistical methods including factor analysis and multi-trait-multi-method matrices (Pedhazur & Schmelkin, 1991). This study reports the results of both content-based evaluation and factor analysis. The content-based analysis of the measure involved several steps: (1) Examination of the conceptual definitions of the constructs, (2) Development and evaluation of the potential scale items to ensure consistency between the conceptual definition and the construct and (3) Careful development of the instructional and scoring procedures (Pedhazur & Schmelkin, 1991). Development and evaluation of a measurement model via factor analysis procedures included three steps: (1) construction of the model, (2) estimation of the observed correlations among the variables/items in the model and (3) comparison of the observed correlations among variables with the correlations predicted by the model (Hunter & Gerbing, 1982). The measurement model was specified a priori based on a theory of the relationships among the items, thus it was appropriate to use confirmatory factor analysis (CFA) procedures to estimate the parameters of the models.

Confirmatory factor analysis was conducted using Hunter and Gerbing’s Package software which employs centroid oblique groups analysis for parameter estimation. Among other parameters, CFA estimates the factor loadings for each item and the correlations between factors. Evaluation of the unidimensionality of the model involves tests of internal consistency and parallelism. Tests of internal consistency assess the relationship between a group of items and the latent construct these items are designed to measure. Internal consistency is calculated by comparing the obtained correlations between items to those that would be expected given the measurement model. Thus, a priori specified criteria for item retention for tests of internal consistency include both the pattern and magnitude of the errors between predicted and obtained correlations between items (e < .20) and examination of the size of the factor loadings. Items with large errors and which loaded higher on other factors than the factors specified were eliminated prior to conducting tests of parallelism. If items were eliminated from a factor, factors were reanalyzed to test the unidimensionality of the new factor. Tests of parallelism estimate the external consistency of items or how items measuring the same factor should correlate with other factors. The a priori specified criteria for item retention in parallelism included comparison of the difference between the predicted and obtained correlations (e < .20), examination of the correlations between factors and of the cross-loadings for items on each factor.

Following establishment of scale dimensionality and test of parallelism, reliability of the scales was assessed via calculation of Cronbach’s alpha for each scale. Reliability and dimensionality should be treated separately when establishing new measures (Hunter & Gerbing, 1982). Reliability deals only with the amount of measurement error in a scale or item whereas tests for dimensionality determine whether or not the items on a scale measure the same trait. Further, deviations from unidimensionality have been found to artificially inflate alpha estimates (Shevlin, Miles, Davies, & Walker, 1999). Thus, it was necessary to establish the dimensionality of the scales before examining scale reliability.

Data Collection Procedure

Each participant received the items relevant to the current examination embedded in a larger questionnaire. The questionnaire contained two parts. One part contained the items on the co-cultural theory scale (C-CTS) designed to measure preferred

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Footnotes:

2 It was the intention of the researchers to over-sample female respondents due to the fact that women may have greater experience with and attribute greater salience to communicating as a co-cultural group member.

3 This value was chosen for this particular investigation and is not necessarily recommended as a benchmark for item retention. This value was chosen based on the number of items in the scale and the fact that there is no previous evidence for the validity of the scale.
Communication Approach

The items designed to measure Communication Approach (CAPPR) included assessments of three dimensions: assertive, aggressive, and nonassertive. The items were modeled after previous measures (e.g., the Assertiveness Inventory, 1980), but were unique in that they inquire specifically about communication within a group interaction in which the respondent is numerically in a minority group. The response scale was anchored with "never" and "always" with higher numbers indicating greater endorsement of the item. The scale consisted of 16 Likert-type items, with a 5-point response scale. The response scale was anchored with "never" and "always" with higher numbers indicating greater endorsement of the item. The conceptual definition of the construct were retained. The scale items were developed via the procedures discussed by Himmelfarb & O’Dair (1993) and Hunter and Gerbing (1982). Items were developed for each distinct dimension by examination of the conceptual definitions of the constructs and by deriving items from existing qualitative data (e.g., drawing from co-cultural group members' narratives). Multiple items were created for each construct in order to allow for the generalization of the conceptual definitions of the construct. The content validity was assessed through face validity by the researchers. Each item that matched the conceptual definition of the construct was retained.

<table>
<thead>
<tr>
<th>#</th>
<th>Item</th>
<th>Final Factor Loading Study 1</th>
<th>M</th>
<th>SD</th>
<th>Final Factor Loading Study 2</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I express my opinions in a group even if it contradicts the opinions of others.</td>
<td>.65</td>
<td>3.40</td>
<td>1.02</td>
<td>.50</td>
<td>3.78</td>
<td>1.05</td>
</tr>
<tr>
<td>2</td>
<td>I voice my objections to people's behavior if I feel it infringes on my rights.</td>
<td>.46</td>
<td>3.71</td>
<td>.93</td>
<td>.53</td>
<td>3.85</td>
<td>1.05</td>
</tr>
<tr>
<td>3</td>
<td>It is important to me that I assert myself when talking to members of the majority group.</td>
<td>.52</td>
<td>3.81</td>
<td>1.05</td>
<td>.42</td>
<td>3.70</td>
<td>1.08</td>
</tr>
<tr>
<td>4**</td>
<td>If I am talking with members of the majority group, I always make sure my ideas are heard.</td>
<td>N/A</td>
<td>3.59</td>
<td>1.05</td>
<td>.87</td>
<td>4.07</td>
<td>.92</td>
</tr>
<tr>
<td>5</td>
<td>I make my opinions clear when I am talking to members of the majority group.</td>
<td>.78</td>
<td>3.65</td>
<td>1.05</td>
<td>.85</td>
<td>4.12</td>
<td>.95</td>
</tr>
<tr>
<td>6</td>
<td>Asserting myself is important when I am talking to members of the majority group.</td>
<td>.85</td>
<td>3.54</td>
<td>1.05</td>
<td>.79</td>
<td>3.88</td>
<td>.94</td>
</tr>
<tr>
<td>7**</td>
<td>It is important that I confront members of the majority group with my opinions.</td>
<td>N/A</td>
<td>3.32</td>
<td>1.05</td>
<td>.71</td>
<td>3.87</td>
<td>.99</td>
</tr>
<tr>
<td>8</td>
<td>I often find myself being overly expressive when I communicate with members of the majority group.</td>
<td>.64</td>
<td>2.66</td>
<td>1.05</td>
<td>.54</td>
<td>2.87</td>
<td>1.17</td>
</tr>
<tr>
<td>9</td>
<td>I always promote my goals when talking with members of the majority group.</td>
<td>.71</td>
<td>3.07</td>
<td>1.05</td>
<td>.65</td>
<td>3.49</td>
<td>1.04</td>
</tr>
<tr>
<td>10</td>
<td>I am outspoken with members of the majority group.</td>
<td>.77</td>
<td>3.03</td>
<td>1.05</td>
<td>.77</td>
<td>3.38</td>
<td>1.07</td>
</tr>
<tr>
<td>11</td>
<td>Sometimes I am forced to be aggressive when I communicate with members of the majority group.</td>
<td>.54</td>
<td>2.91</td>
<td>1.05</td>
<td>.66</td>
<td>3.24</td>
<td>1.22</td>
</tr>
<tr>
<td>12</td>
<td>I usually try to be non-confrontational when dealing with members of the majority group.</td>
<td>N/A</td>
<td>3.10</td>
<td>1.05</td>
<td>.69</td>
<td>3.31</td>
<td>.94</td>
</tr>
<tr>
<td>13</td>
<td>When in the minority, I typically don't assert myself when communicating with members of the majority group.</td>
<td>.67</td>
<td>2.62</td>
<td>1.05</td>
<td>.50</td>
<td>2.31</td>
<td>1.05</td>
</tr>
<tr>
<td>14</td>
<td>When dealing with members of the majority group, I don't express myself as I would with other people.</td>
<td>.75</td>
<td>2.65</td>
<td>1.05</td>
<td>.69</td>
<td>2.47</td>
<td>1.18</td>
</tr>
<tr>
<td>15</td>
<td>I sometimes feel inhibited when I interact with members of the majority group.</td>
<td>.66</td>
<td>2.79</td>
<td>1.05</td>
<td>.54</td>
<td>2.71</td>
<td>1.04</td>
</tr>
<tr>
<td>16**</td>
<td>I usually put the needs of the majority ahead of my own needs.</td>
<td>N/A</td>
<td>2.35</td>
<td>1.05</td>
<td>.53</td>
<td>1.89</td>
<td>.99</td>
</tr>
</tbody>
</table>

Note. *N/A=Factor loading not applicable because item was removed from analysis. **Item dropped when failed tests of parallelism, study 1.
Preferred Outcomes

The Preferred Outcomes (PO) items consisted of 15 Likert-type items with a 5-point response scale ranging from “never” to “always.” Higher scores indicate greater endorsement of the item. All preferred outcome items are presented in Table 2. The scale included three dimensions: assimilation, accommodation, and separation. The seven items designed to measure assimilation included statements such as “When I talk to people in the majority I try to minimize the differences between us.” Accommodation was measured with six items including “I want those in the majority to value the minority perspective.” The three items designed to measure separation included the statement “I don’t want to be seen as part of the majority group.” The PO items are presented in Table 2.

RESULTS AND DISCUSSION

Construct Validity

For the items measuring the three dimensions of CAPPR, tests of internal consistency via confirmatory factor analysis indicated a six-item solution for the assertiveness scale. All items were retained. All errors for predicted and obtained inter-item correlations were small (e < .20, goodness of fit RMSE = .09). Internal consistency analysis revealed a five-item solution for the aggressiveness factor. The errors between predicted and obtained inter-item correlations were small (RMSE = .11) and the factor loadings substantial, therefore all items were retained. Analysis of the non-assertiveness factor indicated a five-item solution in which all items were again retained (RMSE = .14). The factor loading and descriptive statistics for each item is presented in Table 2.

For the items designed to measure preferred outcomes, internal consistency tests revealed a seven-item solution for the assimilation factor. The errors between predicted and obtained inter-item correlations were relatively larger than the errors for the other factors but still below the a priori specified value of .20 (RMSE = .17). For the accommodation factor, 1 item (Item #12) was deleted from the scale due to large differences between predicted and obtained correlations among items (RMSE = .18). The separation factor was not tested for internal consistency because the model is under-identified. The factor loadings and descriptive statistics for each item are presented in Table 2.

Tests of parallelism were next conducted for the items on each factor with the items for every other factor. An initial examination of the factor-factor correlations indicated that the assertiveness and the aggressiveness factor were very highly

TABLE 2

<table>
<thead>
<tr>
<th>#</th>
<th>Item Wording</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1***</td>
<td>When I talk to people in the majority, I try to minimize differences between us.</td>
<td>2.1</td>
<td>.43</td>
</tr>
<tr>
<td>2***</td>
<td>In general, I try to become integrated in the majority culture.</td>
<td>57</td>
<td>69</td>
</tr>
<tr>
<td>3***</td>
<td>I don’t want to be seen as part of the majority.</td>
<td>43</td>
<td>54</td>
</tr>
<tr>
<td>4***</td>
<td>I want those in the majority to value the minority perspective.</td>
<td>44</td>
<td>55</td>
</tr>
<tr>
<td>5***</td>
<td>When I talk to people in the majority, I am the one that members of the majority group see me as similar to them.</td>
<td>78</td>
<td>98</td>
</tr>
<tr>
<td>6***</td>
<td>It is important for me that members of the majority group see me as similar to them.</td>
<td>78</td>
<td>98</td>
</tr>
<tr>
<td>7***</td>
<td>There are many aspects of my background that the majority group should embrace.</td>
<td>4.17</td>
<td>.92</td>
</tr>
<tr>
<td>8***</td>
<td>When I interact with members of the majority group, it is my goal to get them to see things the way I do.</td>
<td>4.17</td>
<td>.92</td>
</tr>
<tr>
<td>9***</td>
<td>I want those in the majority to value the minority perspective.</td>
<td>4.17</td>
<td>.92</td>
</tr>
<tr>
<td>10**</td>
<td>Members of the majority group should appreciate the unique aspects of the minority group.</td>
<td>4.55</td>
<td>.70</td>
</tr>
<tr>
<td>11*</td>
<td>I think it is important that members of the majority group learn to play by my rules.</td>
<td>4.55</td>
<td>.70</td>
</tr>
<tr>
<td>12*</td>
<td>There are many aspects of my background that the majority group should embrace.</td>
<td>4.55</td>
<td>.70</td>
</tr>
<tr>
<td>13</td>
<td>I am the one that members of the majority group see me as similar to them.</td>
<td>4.55</td>
<td>.70</td>
</tr>
</tbody>
</table>

(Continued)
TABLE 2 (Continued)

<table>
<thead>
<tr>
<th>#</th>
<th>Item Wording</th>
<th>Final Factor Loading Study 1</th>
<th>M</th>
<th>SD</th>
<th>Final Factor Loading Study 2</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>I don't want to &quot;fit in&quot; with members of the majority group.</td>
<td>.67</td>
<td>2.54</td>
<td>.89</td>
<td>.43</td>
<td>3.30</td>
<td>1.13</td>
</tr>
<tr>
<td>15***</td>
<td>I do what I can to emphasize the differences between my group and the majority group.</td>
<td>.47</td>
<td>2.62</td>
<td>.92</td>
<td>.60</td>
<td>2.13</td>
<td>1.24</td>
</tr>
<tr>
<td>16</td>
<td>I don't want to be seen as part of the majority group.</td>
<td>.77</td>
<td>2.69</td>
<td>.89</td>
<td>.60</td>
<td>2.13</td>
<td>1.24</td>
</tr>
<tr>
<td>17</td>
<td>I don't care whether or not I am considered part of the majority group.</td>
<td>N/A</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>18</td>
<td>I often separate myself from the majority group.</td>
<td>.56</td>
<td>2.79</td>
<td>1.12</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>19</td>
<td>Being seen as separate from the majority group is important to me.</td>
<td>.57</td>
<td>3.09</td>
<td>1.26</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. Tests of internal consistency could not be completed for the separation factor in Study 1 due to the fact that the model was just identified. Tests of parallelism were conducted for this factor. Items 17-19 were added for Study 2. *Item dropped when failed tests of internal consistency, Study 1. **Item dropped when failed tests of parallelism, Study 1. ***Item dropped when failed tests of parallelism, Study 2. N/A = factor loading not applicable because item was removed from analyses.

Correlations Among the Factors

Note. Study 1 in lower quadrant. Study 2 in upper quadrant.

**Correlation significant at the P < .01 level. *Correlation significant at the P < .05 level.

TABLE 3

<table>
<thead>
<tr>
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<td>0.29**</td>
<td>0.29**</td>
<td>0.29**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

C-CTS VALIDATION 151
Reliability
Once tests of internal consistency and parallelism were complete, items were examined for item contribution to scale reliability. None of the items detracted substantially from the reliability of the scales thus, alpha was calculated for each scale along with scale means and standard deviations. The assertiveness factor had an \( \alpha = .80 \) and a mean of 3.51 (\( SD = .74 \)). The aggressiveness factor had an \( \alpha = .76 \) with a scale mean of 2.91 (\( SD = .79 \)). Reliability analysis of the non-assertiveness scale indicated that it has an \( \alpha = .70 \) and a scale mean of 2.77 (\( SD = .77 \)).

The scales measuring the dimensions of preferred outcome were also tested for reliability. The assimilation scale had an \( \alpha = .81 \) and a mean of 2.85 (\( SD = .72 \)). The accommodation scale had an \( \alpha = .72 \) and a mean of 3.78 (\( SD = .69 \)). Reliability analysis indicated that the separation scale had an \( \alpha = .66 \) and a mean = 2.61(\( SD = .69 \)).

Relationships Among the Dimensions
Once the measurement model was established, an additional goal of this study was to examine the relationships among the dimensions of the C-CTS. There was positive relationship between scores on the assertiveness and the aggressiveness, accommodation, and separation scales. Assertiveness was negatively correlated with non-assertiveness as well as with assimilation. Aggressiveness was negatively correlated with non-assertiveness and positively correlated with accommodation. Non-assertiveness and assimilation were positively correlated. Additionally, assimilation was negatively related to separation. The correlations among the variables are presented in Table 3.

Thus, these analyses provided some evidence for the construct validity of the co-cultural theory scales (C-CTS). Tests of internal consistency and parallelism indicated that the data were consistent with unidimensional factors measuring the three types of communication approach: aggressiveness, assertiveness, and non-assertiveness, and the three preferred outcomes: assimilation, accommodation, and separation. Moreover, the scales exhibited reliability co-efficients within generally accepted ranges; although several of the alphas were relatively low. Importantly, CFA is a necessary but not sufficient step in construct validation of scales, thus, additional evidence for the construct validity of the scales is needed (Pedhauzer & Schmelkin, 1991). Cross-structure validation of the C-CTS by examining convergent and discriminant validity would provide additional evidence for the construct validity of the C-CTS. This can be accomplished by testing the relationship between the C-CTS and other established measures.

Moreover, the findings presented here have a number of important limitations. One is that scales are known to exhibit invariance across samples (Steenkamp & Baumgartner, 1998) and testing the measurement model with another sample would allow for greater confidence in the model (Bollen, 1989). Further, tests of internal consistency were not conducted for the separation factor due to the number of items in the scale, thus, additional items should be included in this scale. Finally, the lack of precision in the instructional scenarios provided to participants may have limited the reliability of the measures, therefore, the instructions should be modified. A second study was undertaken to address these issues.

STUDY 2
A second study was undertaken to address the limitations described above. The procedures for the second study were the same as for the first study with several exceptions. First, four established scales were completed by participants to allow for tests of convergent and discriminant validity. The established measures were the Argumentativeness Scale (Infante & Rancer, 1982) to measure trait-like tendencies to approach or avoid arguments, the Verbal Aggressiveness Scale (Infante & Wigley, 1986) designed to measure trait-like verbal aggressiveness, the Personal Report of Communication Apprehension (PRCA-24; McCroskey, 1982) designed to measure communication apprehension, and the Perspective Taking Scale (Stiff, Dillard, Somera, Kim, & Sleight, 1988) to measure social perspective-taking. These scales were used for the present investigation because they are well-established scales (see Rubin, Palmgreen, & Sypher, 1994 for a review) and the constructs they are designed to measure are expected to be related to the dimensions of the C-CTS in logical ways.

Specifically, it was predicted that the tendency to approach arguments would be positively related to the assertiveness, aggressiveness and separation dimensions of the C-CTS because each of these dimensions involve active engagement in interactions. It was expected that the tendency to avoid arguments would negatively related to the assertiveness, aggressiveness, and separation dimensions, but positively related to the non-assertiveness and assimilation dimensions. It was expected that the tendency toward verbal aggressiveness would be positively related to the aggressiveness dimension of the C-CTS, but would not be significantly associated with the other dimensions. Communication apprehension was expected to be negatively related to the assertiveness and aggressiveness dimensions, and positively related to non-assertiveness. Finally, perspective taking was expected to be positively related to the assimilation and accommodation dimensions and negatively related to the separation dimension. The expected direction of the predicted correlations between the established scales and the dimensions of the C-CTS is presented in Table 4.

Second, the data were collected from a sample of African Americans, a group previously studied as a co-cultural group in the United States (Orbe, 1998a). Third, items were added to the separation scale to allow for tests of internal consistency. Finally, the instructional scenario given to participants was modified to...
include a specific time frame. Specifically, participants were asked to think about a time within the last year when they were in a situation where they were the only person of their race or ethnicity in a group. The analysis for Study 2 consisted of two stages: initially tests of internal consistency, parallelism, and reliability were conducted for the C-CTS and the established scales; then correlations were calculated among the dimensions of the C-CTS scales and between the C-CTS and the established scales.

**METHOD**

**Participants**

Participants in the study included 72 students in Africana studies courses at a large Midwestern university. The participants were primarily female (67%) and had an average age of 21.65 (SD = 2.87). Only participants who self-reported their racial/ethnic background as Black, African-American, or Bi-racial (Black and White), were considered in the present analyses.

**Measurement**

All of the C-CTS items described in Study 1 were included in Study 2. Three items were added to the separation factor. These items were Likert-type items using a 5-point response format anchored with “Strongly Disagree” and “Strongly Agree” with higher numbers indicating greater tendency toward separation. The additional items (item numbers 17–19) are presented in Table 2.

Infante & Rancer’s (1982) Argumentativeness Scale was used to assess trait-like argumentativeness. The scale consists of 10 items designed to measure the tendency to approach arguments and 10 items designed to measure the tendency to avoid arguments. The items are all Likert-type items anchored with “1 = Almost Never True” and “5 = Always True.” Previous research provides evidence for the reliability and the validity of the scale (see Rubin et al., 1994, for a review).

A short form of the Verbal Aggressiveness (VA) Scale, developed by Infante & Wigley (1986), was used to measure trait-like verbal aggressiveness. Ten of the positively worded items were included in the present study in order to shorten the length of the questionnaire. The VA scale consists of Likert-type items on a 5-point scale anchored with “Strongly Agree” and “Strongly Disagree” in which higher numbers indicate greater verbal aggression. Infante and Wigley (1986) provide evidence for the validity and reliability of the scale.

The Personal Report of Communication Apprehension-24 (PRCA-24; McCroskey, 1982) includes 24 Likert-type items designed to measure...
communication apprehension (CA). The items, anchored with "Strongly Disagree" and "Strongly Agree" assess group, meeting, dyadic, and public apprehension and were summed to form an overall index of CA with higher numbers indicating greater apprehension. McCroskey and Beatty (1984) provide evidence for the validity and reliability of the scale.

The perspective taking scale (Stiff et al., 1988) consists of 9 Likert-type items on a 5-point scale anchored with "Strongly Disagree" and "Strongly Agree" in which higher numbers indicate greater perspective taking. Stiff et al. provide evidence for the validity and reliability of the scale.

RESULTS AND DISCUSSION

Measurement Analyses

For the items measuring the three dimensions of communication approach, tests of internal consistency and parallelism via confirmatory factor analysis indicated a 6 item solution for the assertiveness scale \( (RMSE = .10) \). The resulting scale standardized item alpha for the assertiveness scale was .86 with a scale mean of 3.90 \( (S = .72) \). Internal consistency and parallelism tests also indicated a five-item solution for the aggressiveness factor \( (RMSE = .14) \). All items were retained and the resulting alpha for the scale was .80 and the mean for the scale was 3.37 \( (S = .81) \). Analysis of the non-assertiveness factor indicated a five-item solution \( (RMSE = .16; M = 2.53; S = .71) \) in which all items were again retained with a standardized item alpha of .66. The factor loading and descriptive statistics for each item are presented in Table 1.

For the items designed to measure preferred outcomes, one item was deleted from the assimilation scale (item 1) due to a low factor loading and poor fit in the tests of parallelism \( (RMSE = .18) \). The resulting 6-item scale had a standardized item alpha of .86 and a mean of 2.32 \( (SD = .81) \). For the accommodation factor, one item (item 8) was deleted from the scale following internal consistency tests due to large differences between predicted and obtained correlations among items \( (RMSE = .17) \). The resulting 5 item scale exhibited a standardized item alpha of .68 and a scale mean of 3.77 \( (SD = .63) \). Tests of the separation factor yielded a 4 item solution \( (RMSE = .18) \). Two items were eliminated from the scale \( (items 14 and 17) \). The resulting scale had a standardized item alpha of .64 with a mean of 3.08 \( (SD = .81) \). The factor loadings and descriptive statistics for each item are presented in Table 2.

The other scales were also subject to confirmatory factor analysis procedures. Following internal consistency tests, all items were retained for all scales. Tests of parallelism indicated all items could be retained.

Correlations Among the Scales

Once the measurement model was established, correlations among the dimensions of the C-CTS were established. These correlations are presented in Table 3. In order to test for the convergent and discriminant validity of the C-CTS, the C-CTS scales were correlated with each of the established measures. The correlations among these scales are presented in Table 4. Examination of the correlations indicates that the obtained correlations were, with some exceptions, consistent with the predicted correlations. As predicted, tendency to approach arguments was positively correlated with the assertiveness and aggressiveness dimensions of communication approach and negatively correlated with non-assertiveness. Tendency to avoid arguments was negatively associated with assertiveness and aggressiveness and positively associated with non-assertiveness, although the aggressiveness-argumentativeness correlation was non-significant. For the preferred outcomes dimensions, the tendency to approach was correlated as expected with assimilation and separation, however, there was also a significant correlation with the accommodation factor that was not predicted. For argument avoidance, the data were consistent with the predictions except for the separation factor. Verbal aggressiveness was positively associated with the aggression factor and not significantly associated with the other factors, as predicted.

Correlations between the communication apprehension measure and the C-CTS were also in the predicted direction, with the exception of the assimilation factor for which there was a significant positive correlation. The findings for the C-CTS with the perspective taking measure indicated that the communication approach correlations were in the predicted direction, as was the assimilation factor, but the findings for the separation and accommodation factor were not.

Thus, the data in Study 2 were consistent with the predicted measurement model when tested with a sample of African Americans. The correlations among the dimensions of the C-CTS revealed that the assertiveness and aggressiveness dimensions, although distinct factors, were highly correlated. The correlations between the C-CTS and the established measures of argumentativeness, verbal aggression, communication apprehension, and perspective taking indicated that generally, the C-CTS is related to logically related constructs in predictable ways, providing additional evidence for the construct validity of the C-CTS. Importantly, the findings for the preferred outcomes dimensions were more ambiguous than the findings for the communication approach dimensions.

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4The order of the administration of the scales was varied. Subsequent tests for order effects indicated no significant difference between the measures based on the order in which they were administered. These analyses can be obtained from the first author.
GENERAL DISCUSSION

The purpose of these studies were to develop measures of two of the components of Orbe's (1998a) co-cultural theory, to provide evidence for the construct validity and reliability of those measures, to report on the relationship among the dimensions of the scale, and to test the convergent and discriminant validity of the C-CTS. To this end, an initial pool of items was developed based on the conceptual definitions of the constructs and examination of several sets of qualitative data from studies central to the development of co-cultural theory. The items were carefully scrutinized to ensure they represented the breadth of the conceptual definition of each construct. The data were then subject to confirmatory factor analysis (CFA) in order to ascertain whether or not the data were consistent with the a priori specified measurement models.

The measurement analyses from both Study 1, a sample of primarily white women, and Study 2, a sample of African American men and women, provided evidence for the construct validity of the co-cultural theory scales (C-CTS). That is, tests of internal consistency and parallelism indicated that the data were consistent with unidimensional factors measuring the three types of communication approach: aggressiveness, assertiveness, and non-assertiveness, and the three preferred outcomes: assimilation, accommodation, and separation. Importantly, several of the items that were removed from the scales in Study 1 were not removed in Study 2; suggesting continued scrutiny of these items in future research. It is not unusual to have scales with variation in items exhibit parallel factor structures (Byrne, 2001). Moreover, the small sample size for the second study may have impacted the nature of the findings from the CFA. In both studies, the scales exhibited reliability co-efficients within generally accepted ranges, although a number were relatively low; particularly for the items designed to measure preferred outcomes. The magnitude of the co-efficients could be due, in part, to the number of items measuring this dimension (given that alpha is a function of the number of items on a scale) despite the fact that additional items were included in Study 2. Because of the large number of dimensions being measured and the current length of the scales, the addition of many more items would make the scales unmanageable; particularly when administered with measures of other variables. Given the results of the factor analysis and reliability assessment, the items on the respective scales can be summed to indicate the extent to which a person endorses each of the communication approaches or preferred outcomes. Importantly, the strongest evidence for the reliability of these measures exists for the communication approach measures; the preferred outcome dimensions could benefit from additional item refinement.

The data analysis from both Study 1 and Study 2 indicates a similar pattern of correlations among the factors in the C-CTS. That is, the sign, and often the magnitude, of the correlation was similar for the two samples. These analyses further indicate that several of the factors are substantially correlated and that two of the factors: assertiveness and aggressiveness were highly correlated. Tests for second-order factor structure of the models and combining the aggressiveness and assertiveness factors into one factor did not indicate a better model fit than the theoretically specified model. Given the CFA evidence that these are indeed distinct dimensions and the relationship between each dimension with established scales, it appears that these factors are related but conceptually distinct. Particularly, the substantial correlation between aggressiveness and VA and the small correlation between assertiveness and VA lend support for this line of thinking. It is in line with the predictions of co-cultural theory to predict that these two variables would be related. That is, it is likely that one who reports using assertive communication is likely to use aggressive communication as well, but that for any individual, one or the other should predominate.

Other dimensions of the C-CTS also exhibited significant correlations with one another, many of which logically follow from previous conceptualizations of co-cultural theory. There was positive relationship between scores on the assertiveness scale with the accommodation and separation scales, but the pattern of correlations for these dimensions with the established scales were distinct. The use of assertive communication is associated with the desire to change existing cultural structures (accommodation) and to create a unique cultural identity distinct from other cultural group members (separation). The use of aggressive communication was also positively related with the desire to change existing cultural structures.

As might be expected, the communication approaches of both assertiveness and aggressiveness were negatively associated with non-assertiveness. That is, those who choose to use non-assertive communication approaches did not endorse the use of either aggressive or assertive styles when interacting with dominant group members. The communication approach of aggressiveness was also negatively associated with a preference for assimilation. Those who reported using an assertive approach to communicate with group members did not report the desire to fit in with dominant group members (assimilation) as a preferred outcome. Preferences for non-assertive communication, however, were positively associated with assimilation. Finally, the preference for creation and maintenance of a group identity distinct from the majority group (separation) was positively associated with an assertive communication approach and negatively associated with a non-assertive communication approach. Thus, a pattern emerges from these data such that those who desire to blend in with a dominant group's cultural structures prefer taking a non-assertive communication approach and those who desire to either change the dominant group structures or create a distinct cultural identity endorse an assertive or aggressive communication approach. These patterns are consistent with the conceptualizations of co-cultural theory and with extant qualitative data related to the theory.
Beyond those discussed above, the correlations between established scales and the C-CTS dimensions provide some additional evidence for the construct validity of the C-CTS. The findings were generally in the predicted direction with the findings for the communication approach scales being particularly strong. Argumentativeness, verbal aggression, and communication apprehension were related as expected to assertiveness, aggression, and non-assertiveness. For the preferred outcomes scale, the findings were more mixed, with the assimilation and accommodation factors correlating as expected, but not the separation factor.

CONCLUSIONS, LIMITATIONS, AND IMPLICATIONS FOR FUTURE RESEARCH

The data presented in the current study provide an initial examination of a measurement model for a limited number of the variables addressed in co-cultural theory. Additional research is necessary to develop measures of the other theoretical components, to examine the relationship among these components, and to test the factor structure of this scale with other samples. The scales provided here are useful on several fronts, for example, Orbe (1998a) discusses the link between preferred outcomes, communication approach and the tendency to employ particular communication practices. Composite scores on the C-CTS may be used in future research for predicting communication strategy choice or other theoretical variables specified by co-cultural theory. It is critical that future research and extensions of the C-CTS involve additional assessments of its validity and reliability.

The C-CTS presented in this study represents a departure from traditional research on co-cultural theory on several fronts. First, this paper is a radical epistemological shift from previous works that have examined the tenants of co-cultural theory via phenomenology. The blending of phenomenological perspective with the scientific approach has been a conceptual challenge for researchers. This new approach has been attempted with the knowledge that creating additional methods for examining the communication of co-cultural group members can serve to add to our understanding of these communication patterns. These scales might be used in tandem with other methodologies to establish convergence between methods and identify methodologically-based variance.

The findings presented here have implications for the conceptualization of both the PO and CAPPR dimensions of co-cultural theory. Throughout the development of co-cultural theory, Orbe treated the dimensions of CAPPR and PO as continuous but stated that individuals may endorse any of these factors to a greater or lesser extent depending on characteristics of the situation and other variables. The measurement model presented in this essay treats these variables as distinct dimensions. We believe this makes better conceptual sense and makes measurement of the constructs simpler. For example — it is difficult to think of the construct of aggressiveness as falling at the opposite end of the continuum from non-assertiveness. It seems more reasonable to believe that someone might endorse the aggressive, assertive or nonassertive approach to a greater or lesser extent depending on the constraints of the situation and the other communicators. Additional research should further explore this issue.

This paper provides an initial step toward extending the existing research on co-cultural theory. Additional measurement development is needed for other components of co-cultural theory. As Bohrnstedt and Borgatta (1981) suggest, researchers should approach further measurement development with care as “good measures may take years to develop, not days or weeks” (p. 14). Clearly, the results of this study should serve to stimulate development and testing of additional measures for co-cultural theory, as well as conceptual refinement of the theory.

REFERENCES


