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HOW TIGHTLY IS THE KNOT TIED?: SPONTANEOUS USE OF RELATIONSHIP CATEGORIES FOR INTER-RACIAL VERSUS INTRA-RACIAL MARRIAGES

By

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ABSTRACT

HOW TIGHTLY IS THE KNOT TIED?: SPONTANEOUS USE OF RELATIONSHIP CATEGORIES FOR INTER-RACIAL VERSUS INTRA-RACIAL MARRIAGES

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The incidence of interracial marriage between Blacks and Whites has grown from 65,000 in 1970 to 322,000 in 1995 (U.S. Census Bureau, 1970, 1995). The current study sought to determine whether information is spontaneously organized in memory around the marital relationship for inter-racial couples as it is for intra-racial couples (Sedikides, Olsen, & Reis, 1993). It was predicted that it would not be. Couples matched or mismatched on occupation were included since it was predicted that dissimilarities other than race might interfere with a couple being viewed as a social unit. One hundred and eighty participants were randomly assigned to one of the cells of a 2 (attribute: race or occupation) by 2 (relationship: matched on attribute vs mismatched on attribute) between-subjects design. Participants received information about 8 target individuals who comprised 4 couples. Their task was to memorize the information presented about each target. After timed exposure to each target, participants completed recall and recognition tasks, and belief similarity measures. Partial support for the hypothesis that mismatched couples would be less likely to be perceived as a social unit than matched couples was found for within couple and between-couple errors on recognition tasks. However, responses to the free-recall

measure did not show greater spontaneous use of the marital relationship category for matched compared to mismatched couples. Belief similarity measures suggested that couples matched on race or occupation were perceived as more similar on a variety of dimensions (e.g., values, morals, attitudes) compared to mismatched couples as expected. Since the same pattern emerged for couples mismatched on occupation as for those mismatched on race, findings suggest that it is not race per se but rather a lack of perceived similarity that discourages the perception of couples as a unit. Implications of the lack of perceived social unity of a couple by outsiders for the success of inter-racial marriage are discussed.

This work is dedicated to my dearest one, Anne T. Lewandowski

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Finally, to my dearest grandmother. Without your unconditional love and encouragement, I would never have attempted this endeavor nor been able to complete it. I miss you.

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INTRODUCTION

The importance of interpersonal relationships can be seen in the central position they hold in many social psychological theories (Heider, 1958; Kelley, 1979; Kelley & Thibaut, 1978; McCall, McCall, Denzin, Suttles, & Kurth, 1970). Kelley & Thibaut's (1979) theory of interdependence, Heider's (1958) unit relationships theory, and McCall et al's (1970) social bonds conception are only a few of the theories that focus on social relationships. Theory and research have suggested that relationships often function as an organizing tool in social perception (Bond & Brockett, 1987; Fiske, Haslam, & Fiske, 1991; Fiske & Haslam, 1996; Sedikides, Olson, & Reis, 1993).

Marriage as a Potent Social Relationship

The marital alliance is considered to be one of the most potent and primary adult relationships. Research has demonstrated that this particular type of relationship can function as a means of cognitively organizing information in memory (Sedikides, Olsen, & Reis, 1993). The present research is an attempt to determine whether inter-racial couples are viewed as a "social unit" in the same way that intra-racial couples are. In other words, is information cognitively organized spontaneously in memory around the marital relationship for those involved in mixed-race marriages as it is for same-race marriages?

The incidence of inter-racial marriage between Blacks and Whites has more than tripled from 65,000 in 1970 to 322,000 in 1995 (U.S. Census, 1970,1995). Despite this increase, a Gallop Poll conducted in 1994 showed that only 48% of Americans approve of inter-racial marriage and 37% openly oppose

it. In a 1995 Gallop Poll, 1 in 5 Americans stated that they would favor a law prohibiting such unions (Gallop, 1995). If the current trend persists, inter-racial marriages will continue to increase in number despite some enduring biases against such unions (Schoen & Wooldredge, 1989). Thus, how people who marry a person of another race are perceived, our attitudes toward them, and our willingness (or unwillingness) to accept inter-racial marriage among family and friends are issues that an increasingly larger portion of individuals may have to consider in the future.

Among numerous types of personal affiliations, marriage is in many cultures the strongest of all mature relationships. The larger social world tends to treat couples as a unit by the social considerations it extends to them. Married people are invited to events as couples rather than as individuals. Often rights, privileges, courtesies, and opportunities are extended to mates in recognition of their close relationship (McCall & Simmons, 1970).

Marriage is considered a socially defined and regulated alliance in all human societies (Argyle & Henderson, 1985). Generally speaking, there are and always have been strong social norms governing the selection of marital partners (Kerckhoff, 1974). We usually choose partners who are of the same race, religion, social class, educational background, and economic status as ourselves (Kerckhoff, 1974; Rubin, 1973; Udry, 1971). While some departures have become more acceptable over time (e.g., Italians marrying Poles), there are still very strong social norms that favor selecting same-race partners (Klemer, 1970; Rosenblatt, Karis, & Powell, 1995; Staples, 1992).

Rules governing matrimony are supported by religious, legal, moral, and cultural systems. Engagements and marriages generally occur with some type of formal procedure (civil and/or religious) and are often attended by friends and family who confirm that some change has taken place (Argyle & Henderson, 1985). Engaging in these practices results in a concurrence between the couple and society that a long term partnership has been formed (Argyle & Henderson, 1985). Thus, awareness of the members as a unit reaches well beyond the couple themselves.

Balance Theory

While the balance theories of Heider (1958) and Newcomb (1961) suggest that mere association is enough to produce the perception of a unit relationship, more recent work contends that the frequency, intensity, diversity, and duration of social interaction (Kelley et al, 1983) or perceptions of entitativity or unity (Campbell, 1958; Hamilton & Sherman, 1996) may be responsible for creating perceptions of closeness.

Heider (1958) speaks of unit formation and balanced states by suggesting that separate entities comprise a unit when they are perceived as belonging together in an especially close way. Conditions that can lead to unit formation include proximity, similarity, interaction, and common fate. Gestalt psychologists have demonstrated that unit formation is an important part of cognitive organization (Heider, 1958). Further, there is an awareness of the connections that exist between entities (e.g., marital partners), the evaluation of them (the "sentiment" according to Heider) and the interdependence among them. For

example, members of a family, partners in a marriage or a person and her behaviors are viewed as units. A bond forms when the unit (e.g., the husband and wife) and the evaluation of it exist together with no tension. That is, there is no pressure to change either the cognitive organization (i.e., "undo" the unit) or the sentiment; the result is a balanced state. In short, the relationship between unit formation and sentiments tend towards the preferred balanced state (Heider, 1958). Balanced relationships that demonstrate a "good match" (i.e., similarity and reciprocity) between partners are highly desirable (Forgas and Dobosz, 1980) and people have an implicit grasp of what constitutes a balanced or good match (Forgas, 1993). This is particularly true regarding marital partners (Argyle & Henderson, 1985; Kerckhoff, 1974; Klemer, 1970; Rubin, 1973; Udry, 1971).

Recent work by Hamilton & Sherman (1996) attempted to expand upon Campbell's (1958) notion of social units or entitativity. Calling upon Gestalt precepts, Campbell (1958) defined entitativity as the degree to which factors such as similarity, proximity, and common fate lead one to perceive discrete elements as parts of a whole. Depending upon the combination of these factors, "groups" will vary in the extent to which they are perceived to possess unity. Hamilton & Sherman (1996) elaborate this point, suggesting that these properties are correlated, but not perfectly, with perceived unity. Further, two groups may be viewed as equally entitative but not for the same reasons; one may he high on similarity while the other is high on common fate. In fact, while acknowledging that the factors mentioned by Campbell (1958) certainly may increase perceived unity, Hamilton & Sherman (1996) consider common fate,

interdependence (members have frequent and strong impact on each other involving diverse activities over time), and organization (how the group is structured) to be more important cues. The extent to which social perceivers expect a group (e.g., married couple) to show consistency and coherence should be influenced by the degree to which they are perceived as a "social unit" (demonstrate high entitativity). Hamilton & Sherman (1996) proposed that groups that are very tightly knit and interdependent are expected to be similar in many respects. Thus, it seems reasonable to assume that social perceivers would presume marital partners to be similar to each other based on interdependence defined by their relationship.

In a sense, all married couples are likely assumed to possess a certain level of entitativity defined by the marital relationship. The present research sought to explore the role of similarity as one of the precursors to perceived entitativity over and above interdependence. Thus, in addition to couples who are similar or dissimilar on race, couples similar or dissimilar on occupation were included. Occupation was selected as an attribute because, like race, it often may have preconceived or stereotypic characteristics associated with it. For example, we may hold the belief that accountants are conservative, organized, bookish, and wear glasses while an artist is thought to be liberal, free-spirited and unpredictable.

Work by other researchers has taken a related but slightly different view from Campbell (1958) and Hamilton and Sherman (1996) and shown that formation of a relationship category is the result of a process that Srull & Wyer

(1989) refer to as linking. Because of linking, characteristics that belong to one partner are often tied to characteristics of the other partner. Couple members are usually viewed as interdependent (Kernis & Wheeler, 1981), which can have implications for how they are perceived as individuals. For example, Linda is a runner so it may be assumed her husband Michael is concerned with staying in shape. People may form an opinion of one partner given the information they have about the other. Alternatively, one's partner's habits or preferences might have implications for the other partner. Maybe Lucy doesn't like to eat breakfast so Ricky gets up earlier than necessary for work so that he has time to stop at the bagel shop. This perceived interdependence or linking serves to blend two people into a social unit.

Utilizing Relationships in Cognitive Organization

Since Heider (1958), research has addressed specific kinds of relationships (e.g., acquaintances, friends, romantic dyads) and the various taxonomies employed by perceivers with regard to relationships, and has attempted to determine which classifications are superordinate (Bond & Brockett, 1987; Fiske, Haslam, & Fiske, 1991; Taylor & Crocker, 1981). The research discussed next addresses these and other questions regarding the use of how relationships are used as categories in cognitive organization.

Fiske and Cox (1979) considered the effect of target familiarity and descriptive purpose on how others are described. In a content analysis of freely recalled items, relationship descriptors (social roles and descriptions of the interaction one has with another) emerged as one of the major categories of

description employed by subjects. The manner in which we organize information in memory affects the way in which it is later recalled such that the category used to organize or cluster information emerges in free recall (Ostrom, Pryor, & Simpson, 1981). Relationship descriptors occurred particularly at the beginning of the description suggesting their primacy as an organizing structure.

Taylor and Crocker (1981) differentiated between two types of cognitive structures that help us to understand people: social structures based on the relationships among people and personality structures based on characteristics of individuals. Their perspective was tested and extended by Bond and Brockett (1987), who demonstrated that social contexts are superordinate to personality characteristics in memory. They tested their social context-personality index theory on subjects' memory for acquaintances. In unconstrained recall, subjects first named acquaintances in social clusters and then subdivided these clusters into personality clusters. For example, subjects first recalled the people with whom they bowl (e.g., Fred, Wilma, Barney, and Betty), and then subdivided these people into persons who are extroverted (e.g., Fred and Wilma) versus introverted (e.g., Barney and Betty). This finding demonstrates the central role that relationships hold in the organization of information in memory.

Even more recently, Fiske and his colleagues (Fiske, Haslam, & Fiske, 1991; Fiske, 1993; Fiske, & Haslam, 1996) have conducted a series of experiments testing the relational-models taxonomy. This model maintains that people generate, represent, coordinate, and evaluate social relations by differentiating among four relationship types. Communal sharing, authority

ranking, equity matching, and market pricing represent discrete and coherent cognitive structures that underlie a wide variety of social roles (Fiske & Haslam, 1996). Of particular interest here are communal sharing relationships. They are exemplified by close kinship ties or love relationships such as marriage. In this type of relationship, partners are equivalent and undifferentiated, focusing on commonalities and disregarding differences and individual identities (Fiske & Haslam, 1996).

Fiske, Haslam, & Fiske (1991) tested the hypothesis that if relational schemas play an important role in social cognition, then people would tend to confuse those with whom they share the same type of relationship. If, in contrast, people use attribute schemas to organize acquaintances, they would tend to confuse people who share the same attributes. For example, one would be more likely to confuse an ex-boyfriend with a current boyfriend (communal sharing) or confuse two teachers (authority ranking) if perceivers are thinking in terms of relationships. This pattern would be in contrast to confusing two Blacks or two extroverts, which demonstrates the use of attributes as a cognitive organizing mechanism. Fiske et al (1991) found that across five studies (looking at naturally occurring confusions), confusions were better predicted by the relationship model than the personal attribute schemas.

The same results held true for a diary study that collected naturally occurring intentional substitutions (Fiske, & Haslam, 1996). Substitutions occur when a subject selects an acquaintance to share in an activity (e.g., tennis) and then must chose an alternate when her first choice is unavailable or changes her

mind. Fiske & Haslam (1996) sought to determine which characteristics (relational or personal) were held in common by substitutable persons. First, subjects kept a diary of naturally occurring substitutes. Later, as part of an ostensibly different experiment, subjects recorded the personal attributes of their substitutes using rating scales based on the Big Five personality dimensions. Consistent with the first series of studies, use of relational taxonomies prevailed over use of personal attributes. Three of the five personality dimensions failed to significantly predict substitutions. Further, the effects for the personality attributes disappeared or were attenuated when subjects' tendency to interact with people who share common attributes, rather than a tendency to base substitutions on the attributes was taken into consideration.

Fiske & Haslam (1996) maintain that relational models are utilized in memory of person information to a far greater extent than has been previously recognized. They suggest that these relationship schemas are implicit and are mediated by structural rules that people use but are unable to articulate.

Overall, Fiske and Cox, (1979), Taylor and Crocker, (1981), and Bond and Brockett, (1987) all demonstrate that the use of relationships in cognitive organization is a strategy employed early in the perception process and is observable in the way in which information is later recalled (Ostrom, Pryor, & Simpson, 1981).

It seems reasonable that our desire for balanced, equitable relationships combined with our tendency to link people together as social units might vary as a function of the type of relationship present. Given the prominent and central

role that marriage plays in our society, it also seems reasonable to assume that individuals might rely on this unit relationship to organize social information about the marriage partner.

Until recently, most research on person perception has focused not only on hypothetical targets but also on unrelated, isolated targets. Yet rarely do we meet someone without learning something about his or her social network. In real life we often meet others within a social context in which they are accompanied (either physically or via implication) by spouses, friends, or co-workers.

Utilizing the Marital Relationship in Cognitive Organization

Sedikides, Olsen, & Reis (1993), in a series of five experiments, demonstrated that subjects relied significantly on relationship categories to organize target information in spite of instructions to memorize and form an impression of each target *person.* Of specific interest to the present research, Sedikides et al (1993, experiment I) demonstrated the spontaneous use of marital relationships in cognitive organization. They exposed subjects to information items about eight targets. Half the subjects were told that the eight targets comprised four married couples and the dyads were identified (married couple condition). The remaining subjects were supplied with the same target information items, but targets were presented as married to unspecified others (yoked couple condition). A clustering index called the *adjusted ratio of clustering* or *ARC* score was employed to analyze the number and order of items freely recalled (Gerjouy & Spitz, 1966; Roenker, Thompson, & Brown, 1971;

Simpson, 1979). The ARC score is "assumed to reflect the degree to which information was cognitively organized around couples." (Sedikides, Olsen, & Reis, 1993; Ostrom, Pryor, & Simpson, 1981).

Results of Sedikides et al (1993) study indicated that subjects spontaneously organized the stimulus information around married couples more so than around yoked couples (target person married to unspecified others). Thus, subjects were using the marital relationship to organize information about the marriage partners. The social unit, as an entity, provided a framework for encoding incoming information.

An additional index of categorization used in Sedikides et al (1993), is referred to as *confusions.* Confusions were defined as incorrect matches of information with target names. Within-couple confusions occur when subjects recall an information item about one partner that belonged to the other partner (e.g., It was Lisa's husband that likes jazz, not Lisa). Between-couple confusions consist of recalling an information item as belonging to one partner in a couple when it belongs to a member of a different couple.

Subjects made more within-couple confusions for married than yoked couples, thereby demonstrating the strength of the marital relationship category. Results also supported the hypothesis that fewer between-couple confusions would occur for married than for yoked couples. This pattern was interpreted as being relevant to the relative impermeability of boundaries present in the marital relationship.

Overall, Sedikides et al (1993) demonstrated that perceivers

spontaneously organize information around relationship categories. In their experiment, they selected information items such that categories were non-overlapping, so as not to suggest competing categories. In other words, they did not provide the same kind of information about each target (e.g., profession, geographical location, age) because such information might offer additional ways to categorize the targets. This raises the question addressed in the present research of how robust relationship categories are as organizing structures in the face of other available categories (e.g., race).

In terms of perceptions of couples as social units, Sedikides et al (1993) focus on interdependence as a precursor to entitativity. Half of their targets were married to each other while the other half were presented in pairs married to unspecified others. It is reasonable to assume that the former targets would be viewed as sharing greater interdependence than the latter targets. The present study goes one step further by trying to investigate the role of perceived similarity *given* that interdependence exists. Thus, all the target couples in the present research , described in greater detail later, are married to each other but vary in similarity.

Utilizing Physical Characteristics in Cognitive Organization

Fiske and Taylor's (1984) view of the social perceiver as a "cognitive miser" suggests that people will employ simple (minimal effort) and efficient (minimal time) methods to organize the complex social world. Thus, one categorizes and develops stereotypes about the categories. Categorization is believed to be an inevitable, immediate, and an initially perceptual process that

occurs upon first encountering a target (Bruner, 1957).

Physical features are an important part of the categorization process (Asch, 1946; Deaux & Lewis, 1984; Fiske & Cox, 1979; Fiske & Neuberg, 1990; McArthur & Baron, 1983; Posner, Nissen, & Klein, 1976). Race and sex are particularly accessible categories that are difficult to suppress, and are believed to be automatically encoded (Park & Rothbart, 1982). Fiske and Neuberg's (1990) model of impression formation indicates this type of information (i.e., sex, ethnicity, age, social class) is among the most basic of cues for activating a meaningful social category, and this type of category-based processing has priority over attribute-based processing. Other research has demonstrated the pervasive use of such basic categories as race and gender.

Taylor, Fiske, Etcoff, and Ruderman (1978) had subjects listen to an audio-taped discussion. Concurrently, slides of those speaking were shown to subjects. Taylor et al (1978) varied the sex and race of the discussion participants. Subjects were later asked to match the audio statements with the speakers. Results indicated that subjects did use the physical characteristics of race and sex as a means of categorization: intracategory errors were significantly more common than intercategory errors.

Hewstone, Hantzi, and Johnson (1991) supported the results of Taylor et al (1978) utilizing the same paradigm. They hypothesized that it is difficult to interfere with a strong, automatic category such as race. Their work illustrates that although memory for information about others improves as the task becomes more engaging (e.g., anticipated interaction compared to simple

recall), even the most demanding task did not override the strong tendency to organize information along racial lines. In other words, even though an engaging task resulted in better overall accuracy in recall, the kinds of errors still reflected more intra- than inter-race mistakes. Thus, race information might compete with relationship information as the primary organizing category.

Recall that the greater the perceived entitativity, the more social perceivers expect those who comprise the unit to be similar (Hamilton & Sherman, 1996). Also, the more similar couples are perceived to be on a large number of dimensions (race, education, attractiveness, etc), the more likely they are to be viewed as a good match or a balanced relationship (Campbell, 1958; Forgas, 1993; Forgas and Dobosz, 1980; Kerckhoff, 1974; Rubin, 1973; Udry, 1971).

The current study attempted to discover if inter-racial couples are viewed as a "social unit" to the same extent as intra-racial couples (Sedikides, Olsen, & Reis, 1993). It was hypothesized that they would not be. The next question is whether it is something about race per se that interferes with the development of entitativity or if other perceived dissimilarities are responsible. It was predicted that although all married couples may be assumed to possess some degree of interdependence, they may vary in the level of perceived similarity, which in turn may effect their degree of entitativity. Therefore, the design included couples who were either matched or mismatched on race as well as couples who were matched or mismatched on another potentially discriminating attribute, occupation.

The paradigm for the current study is based on that used by Sedikides et al (1993). Given the strong social norms governing marital partner selection, the saliency of physical characteristics, and the tendency to use race as a primary classification, the question of how information about inter-racial couples is processed and organized is an important one.

Experimental Hypotheses

Hypothesis 1: Dissimilar couples (those mismatched on race or occupation) will not be perceived to be as strong a social unit as similar couples (those matched on race or occupation). Therefore, marital relationship will be used as the organizing category more frequently for matched than mismatched couples.

Prediction 1a: Clustering scores will be higher for matched couples compared to mismatched couples indicating greater use of relationship categories.

Prediction 1b: Matched couples will be viewed as more blended or intermeshed than mismatched couples. It is expected that more *within*-couple confusions will occur for matched couples than mismatched couples, reflecting a more pronounced use of relationship categories for matched than mismatched.

Prediction 1c: There will be fewer *between*-couple confusions for matched couples than mismatched couples reflecting stronger relationship category use.

Prediction 1d: Subjects will correctly pair more of the matched couples than mismatched couples on both semantic and visual matching tasks. Specifically, subjects will correctly identify more of the matched pairings than the mismatched pairings when presented with all target names and also when presented with all

target photos or occupations (depending on condition) in two matching tasks.

Hypothesis 2: Subjects in the mismatched couple conditions will organize information around something other than the marital relationship (e.g., race, occupation, gender) compared to those in the matched couple condition.

Prediction 2a: The sequence in which target items are recalled should be informative as to the primary category used. If race and/or sex has been used as the primary category then cluster analysis should reveal more same-race/same-sex people or information items clustered together regardless of marital relationships in the inter-racial conditions than to the intra-racial conditions.

Prediction 2b: The *between* and *within* couple confusions made will be accurate with regard to the race/sex of the target the item actually belonged to but incorrect with regard to the particular couple or partner for the inter-racial condition than for the intra-racial condition. This pattern would demonstrate that categorization by race or sex takes precedence over marital relationship when couples are mismatched on race.

Hypothesis 3: Partners in the matched conditions will be perceived as more similar to each other on underlying dimensions (e.g., morals, values, goals) than partners in the mismatched conditions.

Prediction 3a: Couples in the matched conditions will have higher scores on the belief similarity measure than those in mismatched conditions.

METHOD

Pre-test of stimulus materials:

The goal of the pre-test was to select photographs that equated physical attractiveness (4-4.5 on a 7 point scale), depicted targets of 25-31 years of age, and looked like candid shots that could have been taken by the experimenter. In addition, in order to be selected, target photographs had to be a head and shoulder pose with the target looking directly at the camera and smiling. Attempts were made to equate other characteristics (i.e., no target wore glasses, all were dressed casually, etc). Eight photographs (4 African-Americans (2 male/2 female) and 4 Caucasians (2 male/2 female)) were selected.

Photographs: Two hundred photographs of African-American and Caucasian males and females were collected from catalogs and magazines. Photographs were photocopied (resulting in black and white pictures) and all were placed against a white background. One hundred and twenty psychology undergraduates each rated a subset of seventy-five photographs for attractiveness (1-7 point Likert scale; higher scores indicated greater attractiveness) and perceived age of the target.

Occupations: A list of a range of occupations was generated and 15 undergraduates were asked to indicate the relative status of each occupation on a 7-point Likert scale with higher numbers indicating higher status. The goal of the pre-test was to select 2 occupations that were equal and moderate in perceived prestige (4 on a 7-point scale) but differed in characteristics stereotypically associated with it. The occupations of accountant (conservative,

restrained) and graphic artist (creative, free-spirited) were selected.

Participants: One hundred and eighty Michigan State University students (86 males and 94 females) recruited from introductory psychology classes participated in exchange for course credit or extra credit.

Experimental design: Participants were randomly assigned to one of the cells of a 2 (attribute: race vs occupation) by 2 (relationship type: matched on attribute vs mismatched on attribute) between-subjects design. Participants were presented with eight targets who comprised four couples. Those in the matched relationship conditions saw couples who shared the same ethnicity (two Black couples and two White couples) or four couples where partners shared the same occupation (two couples in which both were graphic artists and two couples in which both were accountants). Participants in the mismatched relationship conditions read information about four couples who were mismatched on ethnicity (Black males with White females (2) and White males with Black females (2)) or four couples mismatched on occupation (accountants and graphic artists paired together). Only those in the race conditions saw photographs of the targets. Presentation of couples within conditions was counterbalanced with regard to race, occupation and gender of target (i.e., half the time the females were presented first and half the time the males were presented first). (Appendix L)

Materials: The experiment utilized two booklets: one containing the stimulus materials and one containing the distractor task and the dependent measures.

a. Stimulus booklet: The stimulus booklet consisted of sixteen pages, one for

each target person with a blank sheet between each (Appendix A). The eight targets comprised 4 couples. The target's name was presented at the top center of each page. In addition, 5 pieces of information were presented on the page. The first item of information identified the target's spouse (e.g., Heather is married to Todd). In the race conditions, race information was conveyed by including a photograph of the target. In the occupation conditions, occupation information was presented with spouse information (e.g., Rachael, a graphic artist, is married to Mark). Target names (within each gender) were selected to be equivalent in length. The four remaining items, chosen to be simple, neutral, and feasible (i.e., hobby is photography) were also presented. At the bottom of the page was a rating scale asking subjects for their impression of the target. It was anchored by 1 (not at all favorable) and 9 (extremely favorable).

b. Dependent measures booklet: Dependent measures were presented in the following order. Blank pages were inserted, where necessary to prevent subjects from viewing forthcoming measures.

Distractor task: The first page of booklet two consisted of a word search puzzle requiring subjects to identify as many Dr. Seuss characters as possible within the given time (2.5 minutes). (Appendix B)

Free recall task: Thirty-two blank quarter-pages were provided for the free recall task. Participants were asked to recall as many items of information as they could in any order that came to mind with the following guidelines: Only one item was to be written per quarter-page piece of paper and they were not to refer back to prior pages. Participants were instructed to start each sentence with the

target's name followed by the information item (e.g., Jennifer loves pizza).

Recognition task: Subjects were presented with a list of the eight target names along with a list of the 32 pieces of information (numbered) for the matching task. Participants were instructed to write the number of the information items that corresponded to each target in the blanks provided under each target name. (Appendix C).

Semantic task: Female target names were listed in one column and male target names were listed on another. Participants were asked to match the couples by drawing a line from each female name to her partner's name. (Appendix D).

Photo matching task: This task was completed by participants in the race conditions only. Female target photos were presented on the left side of the page and male target photos were presented on the right side. Participants were asked to draw a line from each female target to her spouse. The photo matching task and semantic task were counterbalanced. (Appendix E).

Occupation matching task: This task was completed by participants in the occupation conditions only. Each target name was listed and participants were asked to write their occupation in the blank provided. The occupation matching task and semantic task were counterbalanced. (Appendix F).

Belief similarity measures: Targets were presented as couples on the next four pages (one page for each couple) along with seven questions designed to measure how similar partners were perceived to be on a variety of dimensions (e.g., values, religious beliefs, life goals). Seven-point Likert scales were used with higher numbers indicating greater similarity. All information about the target

(photo or occupation information and information items) was presented for this measure. (Appendix G).

Demographic information: The final page requested demographic information and included a probe for suspicion of experimental intent. (Appendix H).

Attitude towards inter-racial dating and marriage scale: Six questions probing for attitudes towards inter-racial dating and marriage were embedded in a thirty-six question survey. The survey, ostensibly for an unrelated study, used 7-point Likert scales. (Appendix I).

Procedure: Sessions included from 3 -10 respondents and were conducted by White (male or female) experimenters (Appendix J). Experimenters welcomed participants to the experiment, described its purpose, and obtained informed consent. Booklets, one containing the stimuli materials and the other containing the dependent measures, were distributed to each person with the instructions to keep them closed until instructed to open them. Individuals randomly received one of the four possible stimuli booklets (matched/mismatched on race or occupation). Participants were told they would see each target for 30 seconds and that their task was to memorize as much of the information presented as possible. They were also told that at the bottom of each target page was a scale ranging from 1 (not at all favorable) to 9 (very favorable) and that they were to indicate their impression of the target after the 30 seconds were over. They were asked not to turn any other pages until instructed to do so. At this time, respondents were informed that consecutive pairs of targets were married to each other. Exposure time to each target was controlled by a pre-recorded tape

played by the experimenter. All instructions were briefly recapped on the tape prior to beginning the experiment. Participants were instructed, via the tape, to begin reading, to stop, to fill out the impression scale and to turn the page to await further instructions. This procedure was repeated 8 times; once for each target.

After exposure to the 8 target descriptions, participants were told to set aside booklet one and place booklet two in front of them. Participants were informed that the first task was the last timed portion of the experiment. They were given 2.5 minutes to work on a word search puzzle intended to be a distractor task. Next, subjects were asked to continue working their way through the remaining pages, taking care to read all instructions completely and to raise their hands if they had any questions. They were told to take as much time as they needed to complete the entire booklet and that they should not turn back to any pages nor should they look ahead. The dependent measures, proceeding from recall to recognition tasks, were presented in the order described above. After all participants had finished, materials were collected by the experimenter. At this time, the second, supposedly unrelated study was introduced and consent forms were distributed, signed, and collected. Under the guise of a survey entitled Attitudes of Midwestern Undergraduates, the attitude questions were collected. Participants were then debriefed (Appendix K), thanked for their participation, and dismissed. Experimenters were able, via markings on the back of both booklets and the surveys, to match each participant's materials and clip them together after subjects had left.

RESULTS

Preliminary Analyses:

Stimulus materials: In order to ascertain that all targets were viewed as equivalent, subject's impressions of each target were analyzed via ANOVA procedures. Impressions did not differ significantly as a function of condition or order of presentation. Impressions of five of the targets did differ significantly as a function of subject sex with females rating them an average of .05 points higher than males. All targets sharing the same race and gender (e.g., the two Black males) were viewed as equivalent.

Free-recall task: Adjusted ratio of clustering (ARC; see appendix M) scores were computed using the computational formula developed by Roenker, Thompson, & Brown (1971) and Gerjouy & Spitz (1966).

Recognition task: Incorrect matches between target names and information items were determined to be either within-couple confusions or between-couple confusions. A within-couple confusion consisted of attributing an information item to the target's partner rather than the actual target. A between-couple confusion consisted of attributing an information item to someone other than the correct target or that target's partner. Proportions of each type of error over all errors were calculated (between- or within-couple confusions/all confusions). All confusions were further coded such that comparisons between the actual target and the target named incorrectly by participants fell into one of the following categories: same race/occupation and same sex, same race/occupation and different sex, different race/occupation and same sex, different race/occupation

and different sex.

Photograph, occupation, and semantic matching tasks: The number of correct responses to each of these tasks were tabulated by adding up correct responses across all targets.

Belief Similarity Measure: Responses to each of the seven questions were added across all four target couples to yield seven total scores for each subject. A principal components factor analysis of the seven belief similarity questions resulted in one factor, with an eigenvalue of 4.4, labeled "belief similarity" which accounted for 63.6% of the variance. Reliability analysis of the seven questions resulted in an alpha of .89.

Measure of Attitudes toward inter-racial marriage and dating: A principal component factor analysis performed on the six attitude questions resulted in one factor with an eigenvalue of 2.8. Two items were dropped due to low factor loadings resulting in a four item factor labeled "attitudes toward inter-racial dating and marriage" which accounted for 70.8% of the variance. Reliability analysis of the four questions resulted in an alpha of .84.

Analyses:

Hypotheses I:

Hypothesis I predicted that couples matched on race or occupation would be perceived more as a social unit than those mismatched on race or occupation. Planned contrasts used to test the prediction that those in the matched conditions would have higher adjusted ratio clustering (ARC) scores on the free

recall task compared to those in the mismatched condition were not significant (Ms = 0.51 vs 0.53 respectively, t(159) = 0.841, p>.05. The free recall task was also analyzed via a 3-way ANOVA of ARC scores by type (matched or mismatched), attribute (race or occupation), and subject sex. There were no significant interactions or main effects to suggest any difference between couples matched on race (M = 0.53) compared to those mismatched on race (M = 0.53) or those whose occupation was matched (M =0.49) compared to unmatched (M = 0.55). (See Table 1).

Within-couple confusions and between-couple confusions were analyzed by forming proportions so that the total number of errors would be reflected in the computation. Thus, the proportion of within-couple errors was formed by dividing the total number of within-couple errors by the total number of errors (both within and between).[1] Planned comparisons indicated a trend in the predicted direction such that those in matched conditions made more within-couple confusions (and fewer between-couple confusions) compared to those in the mismatched conditions (Ms =0.93 vs 0.96, t(169)=1.82, $p<.07$).

Three-way ANOVA's were conducted for within-couple confusions by type (matched, mismatched), attribute (race, occupation) and subject sex. There were no significant interactions. However, there was a main effect for type (F(1, 165) = 3.65, $p< .05$) such that more within-couple confusions (and fewer between-couple confusions) were made for matched couples compared to

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[1] Of course the between-couple confusions could have been analyzed and the results would be the same since they are inversely related.

mismatched couples (Ms = .06 vs .03), as predicted. (See Table 2).

Planned comparisons for totaled within-and between-couple confusions (instead of proportions) were not significant when comparing mismatched to matched couples. There was no difference between matched (M=13.3) and mismatched (M=14.4) couples for between-couple confusions (t(175)=.562, p>.05) or within-couple confusions (Ms=.83 and .68 respectively, t(175)=.719, p>.05). However, means were in the predicted direction for both types of confusions.

Planned contrasts were also conducted for the semantic matching task (matching the husband's name to the wife's name). There was no significant difference between those in the mismatched conditions compared to the matched conditions (Ms=2.41 vs 2.48 respectively, t(172)=.295, p >.05. A three-way ANOVA on the semantic matching task (matching the husband's name to the wife's name) with type, attribute, and subject sex as factors. There was one main effect for subject sex (F(1,168)= 7.17, p < .05. Female participants correctly matched more of the couples by name (M = 2.8) than male participants (M = 2.0 with t(174) = 2.79, p <.05. (See Table 3).

There were no significant differences between participants in the two race conditions (targets matched or mismatched on race) on the photo matching task. Participants in the intra-racial couple condition did not identify more couples correctly than those in the inter-racial couple condition although the means were in the predicted direction (M = 3.1 for matched versus M = 2.9 for unmatched couples).

There were no significant differences on the occupation matching task between those in the matched condition (M = 5.9) compared to those in the unmatched conditions (M =6.0).

Hypothesis II:

Respondents in the mismatched conditions did not utilize race (or occupation in the occupation conditions) or sex over marital category clustering according to their ARC scores. Presence of such clustering would have manifested itself as negative ARC scores. According to Roenker, Thompson, & Brown (1971), ARC scores of zero indicate chance clustering while negative ARC scores indicate that some criteria (e.g., race) other than the one of interest (marital relationship) had been used.

Errors on the recognition task which asked subjects to match each information item to the correct target were analyzed. All errors (both within-couple and between-couple) were included. The means and standard deviations of each type of error are presented in Table 4. The total number of errors made by subjects did not differ significantly across conditions (Ms = 13.6, 15.7, 15.9, and 14.7 for conditions 1-4 respectively). Means did not differ significantly for any of the kinds of errors across conditions or types (matched and mismatched).

A Chi-square analysis was conducted on each type of error by condition so that observed frequencies could be compared to expected frequencies. Results were not significant for any of the error types between conditions suggesting that target race (or occupation in the occupation condition) or sex was not used significantly more than chance for mismatched couples compared

to matched couples. Thus, hypothesis II which predicted that participants in the mismatched conditions would use something other than the marital relationship to organize information compared to those in the matched conditions, was not supported.

Hypothesis III:

A planned comparison demonstrated that couples in the matched conditions were perceived as significantly higher in similarity (M=4.5) compared to couples in the mismatched conditions (M=4.2 with t(176)=2.79, $p<.006$.

A three-way ANOVA of the belief similarity scale by type, attribute, and subject sex resulted in one significant main effect for type. As expected, couples matched on occupation or race were viewed as more similar ($F(1,171) = 8.30$, $p < .05$) on underlying beliefs (e.g., similar values, attitudes, background, goals, etc) than couples who were mismatched (M = 4.55 and 4.22 respectively).

Additional analyses:

Two-way ANOVA's were conducted (for those in the race conditions) on each of the dependent variables with type and subject sex as the factors. Participants' attitude measure was entered as a covariate. Attitude towards inter-racial dating/marriage was not a significant covariate for any of the dependent measures. The mean of the attitude scale (ranging from 1-7 with 7 being most favorable) was 5.47 (sd = 1.38).

DISCUSSION

The purpose of this research was to determine if inter-racial couples are viewed as a social unit to the same extent as intra-racial couples. It was expected that they would not be, prompting a second research question of whether it is race per se or perceived dissimilarity that prevents entitativity from developing for inter-racial couples. Participants were provided with either race or occupation information (along with 5 other information items) for eight targets believed to comprise four married couples. Respondents completed free-recall and recognition tasks about the information presented. In addition, responses to matching tasks (i.e., pairing husbands and wives by name, matching pictures or occupations with correct targets) and perceived belief similarity among pairs were collected. Questions about attitudes toward inter-racial dating and marriage were embedded in a questionnaire and administered as part of a supposedly unrelated study.

Partial support was found for the hypothesis that couples matched on race or occupation would be perceived as a social unit to a greater extent than couples mismatched on race or occupation. Confusions between partners indicated the relationship category of marriage was used differentially for mismatched couples compared to matched couples. Subjects tended to confuse partners within a couple more when they were matched on race or occupation than when they were mismatched on these attributes. According to Sedikides et al (1993), within-couple confusions indicate a greater use of the relationship category of marriage. The conclusions reached by Sedikides et al (1993) (and

these findings) are consistent with Campbell's (1958) and Hamilton and Sherman's (1996) discussion of entitativity. Groups high in perceived entitativity are expected to demonstrate greater unity, consistency, and coherence compared to those not sharing entitativity (Hamilton and Sherman, 1996). Within-couple confusions are evidence that members within a couple are more than two individuals. They are parts of a whole with a fading of individual boundaries (Kernis &Wheeler, 1981; Srull & Wyer, 1989).

This interpretation garners some support from the belief similarity measure which demonstrated that couples matched on race or occupation were perceived as being more similar in their values, attitudes, goals, and ideas on child rearing, as sharing similar religious beliefs, interests, and backgrounds compared to couples mismatched on these attributes.

As expected, participants made more between-couple confusions for targets that were mismatched on race or occupation compared to those who were matched on either of these attributes. Moreover, errors that indicated confusion between couples may be interpreted as demonstrating a lack of entitativity. The boundaries of the social unit are permeable and do not demonstrate a strong use of the relationship category of marriage.

In contrast, no differences emerged on the free-recall task (measured by the adjusted ratio clustering index; ARC) between those in the two race conditions or the two occupation conditions. It was anticipated that those in the matched conditions would have higher ARC scores than those in the mismatched conditions thereby demonstrating a greater use of the marital

relationship as an organizing category. Since other measures did support the hypothesis that relationship information is used differentially by those in the matched conditions compared to those in the mismatched conditions, these data warrant discussion.

It may be that while the ARC measure is sensitive enough to differentiate between married and unmarried couples (such as those in Sedikides et al, 1993 experiment), it may not be sensitive enough to differentiate between *kinds* of married couples. Thus, in terms of Hamilton and Sherman's (1996) discussion of entitativity, the ARC measure may be sensitive to the interdependence of couples but not the similarity/dissimilarity of couples.

Another interpretation is that the information imparted to subjects that "consecutive pairs of targets were married to each other" was too salient or was at least more salient than race or occupation thereby prompting participants to believe they should view targets as couples in spite of the instructions to memorize information about each person.

Thus, there appears to be some evidence that inter-racial couples are not viewed as a social unit to the same extent as intra-racial couples. However, this same pattern emerged for targets matched and mismatched on occupation suggesting that it is not race per se (i.e., not the pure physicality of color) but something about similarities/ dissimilarities (such as mismatched occupations) that discourages the perception of entitativity.

The data suggest that it may not be race per se that accounts for society's continuing disapproval of inter-racial marriage (Rosenblatt, Karis, & Powell,

1995; U.S. Census Bureau, 1995). Rather, it may be that dissimilarity on certain dimensions (e.g., race, occupation) implies other underlying differences. Our preconceived notions about Black males, conservative accountants or free-thinking artists may underlie our reluctance to see balance and unity in a relationship of mismatched partners (Argyle & Henderson, 1985; Heider, 1958; Forgas, 1993; Forgas & Dobosz, 1980).

The lack of significant differences (as tested by ANOVA procedures) on the tasks requiring respondents to match couples by name and photographs or occupations (the semantic, photographic, and occupational matching tasks) is puzzling. However, recall that the target's name was presented with either a photograph or occupation and spousal information before any other information items were read. Recall also that the first task participants were asked to perform was to indicate their impression of the target although they were told that their ultimate goal was to memorize as much information as possible.[2] These conflicting instruction sets may be responsible for the lack of results. Recent research has shown that different processing goals will have different effects on how social information is processed (Hamilton and Sherman, 1996), particularly when perceivers hold different expectations about the perceived entitativity of the targets (McConnell, Sherman, & Hamilton, 1997). In short, it is unclear if certain information (such as items presented earliest in a series) might be better recalled than other information.

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[2]Concern regarding the conflicting instructions was voiced prior to the study being conducted. However, since part of the goal was to replicate the results of Sedikides et al (1993), we decided to follow their procedure as closely as possible.

Alternatively, spousal information and (depending on condition) race or occupation of the target, was information they had about every target they viewed. None of the other information consisted of overlapping categories. In other words, subjects did not receive hobby or religious preference information about all targets. The study was designed this way in order to control the number of ways subjects could categorize targets. However, it may have also had the unexpected effect of causing subjects to pay particular attention to race, occupation and spouses name since these data *were* overlapping category information. Items like race, occupation or spouse's name may have offered a heuristic for organizing the incoming information because it offered alternative categories other than marital relationship.

Less puzzling is the fact that the measure of attitudes toward inter-racial dating and marriage was not a significant covariate. The undergraduate population, as a whole is rather liberal and demonstrates a restriction of range on such measures. A majority of the participants expressed very positive attitudes towards inter-racial marriage and dating. Further, it is difficult to access the extent of the social desirability bias often present in measures such as this.

The unpredicted finding that female respondents correctly matched more of the couples compared to men is consistent with gender stereotypes. Females tend to be more communal compared to males and are more concerned about interpersonal relationships (Kelley et al, 1983). Therefore they are more likely to be attentive to relationship information.

Participants did not appear to differentiate between kinds of couples (matched and mismatched) at the perceptual level as measured by the clustering index; the ARC scores for each type were not significantly different. Participants were however, making distinctions later during the recognition task where they were asked to match information items to the correct target as measured by between- and within-couple confusions. It's possible that as time passes subjects have an opportunity to ask themselves the question "How do I feel about that?" Time may afford the social perceiver an opportunity to consider the couple in other ways (i.e., moral, social, emotional). Perhaps the decision to combine two individuals into a social unit comes after the perceptual process when we have time to think about the partners. Implicit in the perceived entitativity (or lack thereof) is the rendering of some valenced value judgment. Do I (as a social perceiver) see these two partners as a balanced relationship or a good match? (Forgas, 1993; Forgas & Dobosz, 1980; Kerckhoff, 1974).

One way of studying the effect of value judgments on perceived entitativity would be to utilize information differing in valance (i.e., Jennifer graduated at the top of her college class vs flunked out her first year in college) to see if more negative information items are attributed to those married inter-racially compared to intra-racially. We might expect that if there is some negative evaluation being attributed to mismatched couples, they might be associated with significantly more negative characteristics. This might also shed light of the question of whether it is the inter-racial couple that is the focus of social disapproval, the stigmatized out-group member (i.e., the Black partner for

White participants) or the deviant in-group member.

In summary, partial support was found for hypothesis I that matched couples are viewed as a social unit to a greater extent than mismatched couples. Evidence does not suggest that race or occupation information is utilized more than relationship information for mismatched couples compared to matched couples (hypothesis II). Finally, perceived similarity of underlying dimensions such as morals, values, background, life goals, religiosity, and attitudes is viewed as greater for matched couples than mismatched couples (hypothesis III).

One drawback to the current research is the artificiality of the four couple composition. In real life, we do not meet the same number of couples married inter-racially and intra-racially; inter-racial marriage accounts for only 1-1 ½ percent of all marriages in the United States (U.S. Census Bureau, 1995). Nor is it common for many of the couples we come in contact with to have the same occupation. Research is currently being conducted that will consider a mixture of inter- and intra-racial couples that more accurately depict the real world. It seems reasonable to expect that one inter-racial couple in a group of intra-racial couples, due to their increased saliency, might appear to be even less of a social unit than those in the current study. The results found here might be even more pronounced.

Additionally, it might be interesting to manipulate the kind of information provided about each target (e.g., stereotypic and counter-stereotypic statements) along with both negatively and positively valenced statements (as

mentioned earlier) to see which are recalled better. If negative stereotypic statements are recalled better, it might be evidence that perceivers are relying on (predominantly negative) stereotypes of social groups that bias how they see the couple. If they recall counter-stereotypic statements, particularly positive ones, it may suggest a willingness to see the couple as more than members of their social groups.

It has been suggested that the support of family and friends is an important factor in perceived marital satisfaction (Argyle & Henderson, 1985). Ultimately, the lack of perceived social unity of a couple by outsiders might have a detrimental effect on the partners who would not be granted the rights, opportunities, and privileges extended to those whose relationships are recognized (McCall & Simmons, 1970). If couples such as those who marry inter-racially are not viewed as a social unit, it is possible that their future family might also be viewed by others as less bonded, less cohesive than other families (Rosenblatt, Karis, & Powell, 1995). Long-term effects on the adults and potential effects on the children of such unions need to be considered.

Research is also currently underway to determine if other kinds of dissimilarities interfere with the formation of the couple as a social unit. Couples matched and mismatched on age or physical attractiveness are being considered. Each of these attributes are connected to well established stereotypes (Bar-Tal & Saxe, 1976; Berscheid & Walster, 1974; Jackson, 1992; Kernis & Wheeler, 1981) that could act to inhibit the development of entitativity between partners.

In conclusion, it appears that the reluctance of society to accept inter-racial marriage may be due, in part, to the perception of underlying differences between partners on certain belief dimensions rather than just the pure physicality of race. More likely, it is a combination of these (and perhaps other) components. Given that some of the same results were found for couples mismatched on occupation, it seems reasonable to assume that other differences (such as physical attractiveness) might show the same pattern of results.

This is not to suggest that prejudice, negative stereotypes, historical and social influences do not play a role in the perception of inter-racial couples. It appears from other research that they do (Lewandowski, 1996; Rosenblatt, Karis, & Powell, 1995; Staples, 1992). Attempting to study the specific dimensions that social perceivers believe inter-racial partners differ on might prove useful in discovering the core reasons for disapproval. The affect associated with different kinds of mismatched couples (inter-racial, homosexual, May-December romances) may add some interesting considerations.

Many questions remain for the interested researcher. For example, if disapproval is not merely a result of perceptual processes (additional research would have to rule out this possibility more conclusively) what underlying dimensions are important for a "social unit" to be perceived as such? Do certain dimensions (i.e., religiosity) outweigh differences in physical attractiveness for example? And perhaps most importantly, what effect does this have on couples (and their families) engaged in atypical or mismatched marriages?

APPENDICES

APPENDIX A

APPENDIX A

JENNIFER

Jennifer is married to Pete

Favorite color is blue

Hobby is photography

Loves pizza

College major was business

(PHOTOGRAPH)

What is your impression of Jennifer?

Not at all favorable 1 2 3 4 5 6 7 8 9 Extremely favorable

APPENDIX A

PETE

Pete is married to Jennifer

Likes people who are "humorous"

Was born in Canada

Favorite actress is Julia Roberts

Is an early riser

(PHOTOGRAPH)

What is your impression of Pete?

Not at all favorable 1 2 3 4 5 6 7 8 9 Extremely favorable

APPENDIX A

DANIEL

Daniel is married to Kimberly

Listens to Jazz

Is interested in politics

Once worked as a waiter

Likes animals

(PHOTOGRAPH)

What is your impression of Daniel?

Not at all favorable 1 2 3 4 5 6 7 8 9 Extremely favorable

KIMBERLY

Kimberly is married to Daniel

Vacations in California

Fascinated by modern art

Is an avid reader

Pet peeve is heavy traffic

(PHOTOGRAPH)

What is your impression of Kimberly?

Not at all favorable 1 2 3 4 5 6 7 8 9 Extremely favorable

MARK

Mark is married to Rachael

Flosses every day

Favorite writer is Steinbeck

Is active in his faith

Collects antiques

(PHOTOGRAPH)

What is your impression of Mark?

Not at all favorable 1 2 3 4 5 6 7 8 9 Extremely favorable

RACHAEL

Rachael is married to Mark

Belongs to a health club

Has occasionally traveled outside of Michigan

Favorite T.V. shoe is "ER"

Preferred drink is red wine

(PHOTOGRAPH)

What is your impression of Rachael?

Not at all favorable 1 2 3 4 5 6 7 8 9 Extremely favorable

HEATHER

Heather is married to Todd

Belongs to a ski club

Likes to dress casually

Is a human rights activist

Is independent

(PHOTOGRAPH)

What is your impression of Heather?

Not at all favorable 1 2 3 4 5 6 7 8 9 Extremely favorable

TODD

Todd is married to Heather

Lives on Meadowbrook Drive

Dreams of owning a Jaguar

Favorite U.S. president is Roosevelt

Enjoys watching tennis

(PHOTOGRAPH)

What is your impression of Todd?

Not at all favorable 1 2 3 4 5 6 7 8 9 **Extremely favorable**

APPENDIX B

APPENDIX B

Please try and locate as many of the Dr. Seuss characters as you can in the puzzle below. Circle the words as you find them as demonstrated by the example.

(Word search puzzle placed here)

APPENDIX C

APPENDIX C

Please match each of the items with the correct person. Enter the corresponding number in the blanks under the correct name.

TODD	RACHAEL	KIMBERLY
___ ___ ___ ___	___ ___ ___ ___	___ ___ ___ ___
MARK	PETE	JENNIFER
___ ___ ___ ___	___ ___ ___ ___	___ ___ ___ ___
DANIEL	HEATHER	
___ ___ ___ ___	___ ___ ___ ___	

1. Lives on Meadowbrook Drive
2. Avid reader
3. Likes people who are "humorous"
4. Favorite color is blue
5. Was born in Canada
6. Traveled occasionally outside of Michigan
7. Enjoys watching tennis
8. Likes to dress casually
9. Once worked as a waiter
10. Belongs to a health club
11. Vacations in California
12. Flosses every day
13. Loves pizza
14. Listens to Jazz
15. Favorite writer is Steinbeck
16. Collects antiques
17. Dreams of owning a Jaguar
18. Fascinated by modern art
19. Belongs to a ski club
20. Preferred drink is red wine
21. Is an early riser
22. College major was business
23. Is independent
24. Pet peeve is heavy traffic
25. Favorite actress is Julia Roberts
26. Hobby is photography
27. Favorite U.S. president is Roosevelt
28. Favorite T.V. show is "ER"
29. Is active in his faith
30. Is a human rights activist
31. Is interested in politics
32. Likes animals

APPENDIX D

APPENDIX D

Please draw a line from the wife on the left to her husband on the right so that the four couples you saw are matched up.

RACHAEL	**DANIEL**
HEATHER	**TODD**
KIMBERLY	**PETE**
JENNIFER	**MARK**

APPENDIX E

APPENDIX E

Please match the wife on the left with her husband on the right by indicating the proper number in the space.

PHOTO OF WIFE 1 1) **HUSBAND PHOTO**

This women's husband is number____

PHOTO OF WIFE 2 2) **HUSBAND PHOTO**

This women's husband is number____

PHOTO OF WIFE 3 3) **HUSBAND PHOTO**

This women's husband is number____

PHOTO OF WIFE 4 4) **HUSBAND PHOTO**

This women's husband is number____

APPENDIX F

APPENDIX F

Please indicate whether each of the following people you read about indicated their occupation to be an accountant or a graphic artist.

Jennifer is a(n) _____.

Rachael is a(n) _____.

Heather is a(n) _____.

Kimberly is a(n) _____.

Pete is a(n) _____.

Mark is a(n) _____.

Daniel is a(n) _____.

Todd is a(n) _____.

APPENDIX G

APPENDIX G

(Photograph or occupation information here)

Favorite color is blue.

Hobby is photography.

Loves Pizza.

College major was business.

(Photograph or occupation information here)

Likes people who are "humorous"

Was born in Canada.

Favorite actress is Julia Roberts

Is an early riser.

Circle the answer you select on the scale located directly below each question.

1. How similar do you think _____ & _____ are in their values and beliefs?

Not at all similar ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***Very similar***

2. How similar do you think _____ & _____ are in their religious beliefs?

Not at all similar ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***Very similar***

3. How similar do you think _____ & _____ are in their attitudes?

Not at all similar ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***Very similar***

4. How similar do you think _____ & _____ are in their background?

Not at all similar ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***Very similar***

5. How similar do you think _____ & _____ are in their child rearing ideas?

Not at all similar ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***Very similar***

6. How similar do you think _____ & _____ are in their life goals?

Not at all similar ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***Very similar***

7. How similar do you think _____ & _____ are in their interests and hobbies?

Not at all similar ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***Very similar***

APPENDIX H

APPENDIX H

DEMOGRAPHIC INFORMATION

1. **SEX:** MALE _____ FEMALE_____ 2. **AGE:** _____

3. **MARITAL STATUS:** SINGLE____ MARRIED____ DIVORCED____

4. **CLASS:** _____ FRESHMAN _____SOPHOMORE

_____JUNIOR _____SENIOR

5. **RACE/ETHNICITY:**

_____ ASIAN AMERICAN _____ ANGLO AMERICAN

_____ NATIVE AMERICAN _____ OTHER

_____ AFRICAN AMERICAN _____ HISPANIC

6. Describe in your own words what you understand the purpose of this experiment to be.

_____

_____

_____

7. How much did you enjoy participating in this experiment?

Not at all 1 2 3 4 5 6 7 Very much

APPENDIX I

APPENDIX I

The following questions were embedded in a mock survey of 36 questions entitled *Attitudes of Midwestern Undergraduates - 1997.*

1. **I think that dating outside your race is acceptable.**
2. **I think that marrying outside your race is acceptable.**
3. **I would never marry someone of a different race.**
4. **I would date someone of a different race.**
5. **I have at least one good friend that is of a different race than me.**
6. **I have dated outside my race.**

APPENDIX J

APPENDIX J

EXPERIMENTAL PROCEDURE

"I'd like to welcome you to the Person Perception Study. Please listen while I give you a short description of the study and what your contribution to it will be."

"You are going to be provided with some information about eight people. You'll be given 25 seconds to memorize the information. Then you will be asked to recall the information about each person. If you are willing to participate in this task, please read and sign the consent form you have in front of you."

Have subjects read and sign the consent form. Collect the consent forms and set them aside.

"Now let me tell you in greater detail how this experiment works. You have two booklets in front on you. The top one says "TARGET DESCRIPTIONS" on it and the second one says "MEMORY TASKS" First of all, certain portions of this study are timed so it is VERY IMPORTANT that you DO NOT turn any pages in the booklets until you are asked to do so."

"There are eight people described in this booklet. Each description includes a photograph and 5 pieces of information. When the tape says "BEGIN", you will

open your booklet and begin reading. You will have 25 seconds to memorize that person's information. At that point, the tape will tell you to "STOP". There is a 9 point rating scale ranging from (1) "Not at all favorable" to (9) "Extremely favorable" at the bottom of the description page. Please indicate your impression of the person, turn the page and wait until you are told to continue."

****

Ask to see if there are any questions about the procedure before beginning. Make sure to pause for a few seconds. Be observant. If they have a confused look on their face, briefly repeat the procedure.

Please set aside the booklet marked "MEMORY TASKS" and place the booklet marked "TARGET DESCRIPTIONS" in front of you. Again, remember to begin and stop only when I ask you to do so."

Make sure that after the first description, they turn to the colored filler page and wait for you to say begin.

DEPENDENT MEASURES:

After you have completed the "TARGET DESCRIPTION" booklet:

"Now please set aside your "TARGET DESCRIPTION" booklet and place your MEMORY TASKS" booklet in front of you. Only the first task, a word search puzzle will be timed. When the tape says begin, open your booklet and begin

woking on the word search puzzle on the first page. Do not turn any other pages."

Tape will time this for 2.5 minutes and then instruct the participants to stop.

The rest of the booklet can be worked on at your own pace. Follow the directions for each task. If you do not understand a task, raise your hand and I will assist you. Take as much time as you need for the remaining pages".

Again, ask if there are any questions before beginning. After all the participants are finished ask them to paper clip their two booklets together and collect them. ***Read the debriefing information to them,*** *sign and stamp their credit cards and dismiss the participants. Give each participant a copy of the debriefing form to take with them.*

APPENDIX K

APPENDIX K

DEBRIEFING FORM

At this time. we'd like to thank you for participating in this Person Perception Study. By taking the time to participate, you have made a valuable contribution to psychological research. I'd like to tell you a bit more about what we are looking at with this study and what you have helped us to accomplish.

Everyday all of us are bombarded with huge amounts of new information. We watch television, read newspapers and magazines, converse with many people (new and known). Our senses take in so much information that we depend on certain tools to help us simplify our world. Usually we try to do this in a simple and efficient way.

One very helpful tool for accomplishing this is to categorize or classify information into groups. In other words, let's say I asked you to memorize this list of words (apple, snail, zebra, banana, pear, dog). Then I asked you to recall the words. Chances are you would cluster your responses by "fruit" and "animal". Categorizing information provides a framework to organize incoming data.

We do the same thing with people. We can use all kinds of different classifications: age, gender. occupation, race, hobbies, relationships (family, friends, co-workers).

This study is trying to see if the category of marriage (a particularly potent type of relationship in many cultures) is a prevalent or common way of organizing information. There is research that suggests relationships are used quite often in cognitive organization. If I asked you to name 25 people that you know, you might very well list family members, school friends, teammates in clusters (all of

one then all of another). Some researchers believe you are more likely to do that instead of using individuating traits (all those with a good sense of humor, all the extroverts, etc).

Now, you can easily imagine being at a party and meeting a woman, talking to her for a while and then being introduced to her husband. So after learning information about each of them, do you encode the information about 2 separate people or do you organize it around the couple? The social world extends may rights, courtesies, and privileges to spouses. In fact, there is research to demonstrate that social support is a significant contributor to marital happiness and success. It may be that couples who are not treated as a social unit, miss out on this very important dimension.

So we are also interested in whether or not this relationship category is used in the face of other, very salient categories such as race. Will inter-racial couples be considered a social unit like intra-racial couples are? If not, it may be up to future research to determine what the ramifications of that are for inter-racial couples.

Hopefully, this study will assist us in learning how information about people is organized in memory. Again, thank you for taking the time to participate. If you have any other questions about this research or are interested in knowing the results when they are available, please feel free to contact the person listed below.

Dr. Linda A. Jackson	432 Baker Hall	353-8690
Donna A. Lewandowski	424 Baker Hall	432-2169

APPENDIX L

Appendix L

Counterbalancing Procedures

Targets:

2 Black males:	Mark	2 Black females:	Rachael
	Todd		Heather
2 White males:	Pete	2 White females:	Jennifer
	Dan		Kimberly

Couple Combinations:

MR	**MH**	*MJ*	*MK*	Bolded and underlined = Black couples
TR	**TH**	*TJ*	*TK*	Underlined only = White couples
PR	**PH**	**PJ**	**PK**	Bolded only = White male and Black female
DR	**DH**	**DJ**	**DK**	Italicized = Black male and White female

---

Inter-racial conditions:

4 orders of each of the following pairings:

MJ	TK	PR	DH	B,W/B,W/W,B/W,B
PH	DR	MR	TJ	W,B/W,B/B,W/B,W
RP	JM	HD	KT	B,W/W,B/B,W/W,B
KM	HP	JT	RD	W,B/B,W/W,B/B,W

Intra-racial conditions:

4 orders of each of the following:

PJ	DK	MR	TH	W,W/W,W/B,B/B,B
MH	TR	PK	DJ	B,B/B,B/W,W/W,W
KD	HT	JP	RM	W,W/B,B/W,W/B,B
RM	JP	HT	KD	B,B/W,W/B,B/W,W

Counterbalancing of occupations followed the same procedures such that ½ had the same and ½ had different occupations, ½ had the wife presented first and ½ had the husband presented first, and ½ had graphic artist presented first and ½ had accountant presented first.

APPENDIX M

Appendix M

The Roenker, Thompson, and Brown (1971) formula for calculating adjusted ratio of clustering (ARC) scores is as follows:

$$ARC = \frac{R - E(R)}{MaxR - E(R)}$$

R = The number of times a category item follows an item in the same category.

E(R) = Expected (chance) number of category repetitions and is calculated as $\frac{\Sigma n_i^2}{N} - 1$

maxR = Maximum possible number of category repetitions and is equal to N (total number of items recalled) - k (number of categories represented in the recall protocol.

In the following string, the bolded words are the ones Sedikides, Olsen and Reis (1993) would have coded as "hits" (R in the above formula) if Jack and Jill were a category:

Ex 1: **JACK JACK JILL JILL JILL JACK JACK JACK**

Ex 2: **JACK JILL JILL PETE JACK JACK JILL**

Table 1

Means and standard deviations for all dependent measures by condition.

Dependent measure:	Cond I[1]	Cond II	Cond III	Cond IV
Clustering index (ARC)	.53 (.24)	.53 (.23)	.49 (.24)	.55 (.20)
Between-couple confusions (total)	12.9 (8.0)	15.0 (8.0)	14.8 (6.5)	13.9 (6.3)
Within-couple confusions (total)	.67 (.83)	.68 (1.8)	1.0 (1.1)	.71 (1.0)
Between-couple confusions (proport)[2]	.94 (.10)	.97 (.07)	.94 (.07)	.95 (.06)
Within-couple confusions (proport)	.06 (.10)	.03 (.07)	.06 (.08)	.04 (.06)
Semantic (name) matching task	2.3 (1.5)	2.5 (1.4)	2.5 (1.5)	2.3 (1.4)
Photographic matching task[3]	3.11 (1.2)	2.95 (1.2)	na	na
Occupation matching task[3]	na	na	6.0 (1.5)	5.7 (1.9)
Belief similarity measure[4]	4.51_b (.63)	4.14_a (.74)	4.52_b (.57)	4.30_a (.97)
Attitude measure[5]	5.4 (1.6)	5.5 (1.3)	5.2 (1.3)	5.6 (1.3)
Total number of errors	13.6 (8.2)	15.7 (8.4)	15.9 (6.8)	14.7 (6.6)

Standard deviations are shown in parentheses. Means with different subscripts are different at the $p<.05$ level.

[1] Conditions: I - Couple matched on race; II - Couple mismatched on race; III - Couple matched on occupation; IV - Couple mismatched on occupation

[2] Numbers represent a proportion of type of confusion (between or within)/total of all confusions.

[3] Higher numbers indicate greater matching.

[4] Higher numbers indicate greater perceived similarity.

[5] Higher numbers indicate higher approval of inter-racial dating and marriage.

Table 2

Means and standard deviations for all dependent measures by type.

Dependent measure:	Matched[1]	Mismatched
Clustering index (ARC)	.51 (.23)	.53 (.20)
Between-couple confusions (total)	13.9 (6.9)	14.3* (7.18)
Within-couple confusions (total)	.83 (.95)	.67 (1.5)
Between-couple confusions (proport)[2]	.93 (.09)	.96* (.07)
Within-couple confusions (proport)	.06 (.09)	.03* (.07)
Semantic (name) matching task	2.41 (1.4)	2.48 (1.4)
Photographic matching task	3.1 (1.3)	2.9 (1.2)
Occupation matching task	6.0 (1.6)	5.9 (1.6)
Belief similarity measure	4.5 (.58)	4.2* (.86)
Attitude measure	5.3 (1.5)	5.8 (1.3)

[1] Matched = matched on race or occupation; conditions I and III.
Mismatched = mismatched on race or occupation; conditions II and IV.

Table 3

Means and standard deviations of all dependent measures by subject sex.

Dependent measure:	Male	Female
Clustering index (ARC)	.52(.23)	.53 (.20)
Between-couple confusions (total)	14.2 (7.0)	14.0 (7.1)
Within-couple confusions (total)	.76 (1.4)	.75 .98)
Between-couple confusions (proport)[2]	.94 (.09)	.94(.07)
Within-couple confusions (proport)	.05 (.09)	.05 .07)
Semantic (name) matching task	2.0(1.4)	2.8* (1.3)
Photographic matching task	2.7(1.2)	3.1(1.2)
Occupation matching task	5.6(1.5)	6.1(1.7)
Belief similarity measure	4.3 (.78)	4.5 (.70)
Attitude measure	5.4 (1.3)	5.5 (1.5)

* = significantly different at the $p < .05$ level

Table 4

Means and standard deviations of error types.

Type of error:	Intra-racial:	Inter-racial:
Different race & sex	1.2 (1.5)	1.2 (2.3)
Different race/same sex	6.7 (4.8)	7.6 (4.7)
Same race/ different sex	1.2 (1.3)	1.5 (2.0)
Same race & sex	4.3 (3.3)	5.2 (3.7)

Type of error:	Same occupation:	Different occupation:
Different occupation & sex	1.5 (1.3)	1.5 (1.3)
Different occupation/same sex	8.6 (4.4)	7.2 (3.6)
Same occupation/different sex	1.7 (1.7)	1.6 (2.1)
Same occupation & sex	3.8 (2.5)	4.2 (3.2)

Type of error:	Matched:	Mismatched:
Different attribute & sex	1.3 (1.9)	1.3 (1.4)
Different attribute/same sex	7.6 (4.7)	7.3 (4.3)
Same attribute/ different sex	4.1 (3.0)	4.7 (3.5)
Same attribute & sex	1.5 (2.1)	1.6 (1.5)

* = means are different at the $p < .05$ level

Table 5

Means and standard deviations all dependent measures by attribute.

Dependent measure:	Race	Occupation
Clustering index (ARC)	.53 (.22)	.52 (.22)
Between-couple confusions (total)	14.4 (7.8)	13.9 (6.12)
Within-couple confusions (total)	.71 (1.5)	.79 (.97)
Between-couple confusions (proport)[2]	.94 (.09)	.94 (.07)
Within-couple confusions (proport)	.05 (.09)	.05 (.07)
Semantic (name) matching task	2.41(1.4)	2.48 (1.4)
Photographic matching task	na	na
Occupation matching task	na	na
Belief similarity measure	4.3 (.72)	4.4 (.76)
Attitude measure	5.4 (1.3)	5.4 (1.5)

[1] Race = matched or mismatched on race; conditions I and II.

Occupation = matched or mismatched on occupation; conditions III and IV.

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