

Mapping the Social Ecology of Culture: Social Position, Connectedness,  
and Influence as Predictors of Systematic Variation in Affective Meaning

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the requirements for the degree of Doctor  
of Philosophy in the Department of  
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of Duke University

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ABSTRACT

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## **Abstract**

A strong model of culture should capture both the structured and negotiated elements of cultural meaning, allowing for the fluidity of social action and the agency of social actors. Although cultural meanings often reproduce societal structures, supporting stability and consensus, culture is constitutive of and not merely produced by structural arrangements. It is therefore essential to establish clear mechanisms which guide how individuals interpret social events and apply cultural meanings in making sense of the social world. As such, this dissertation focuses on the model of culture forwarded by affect control theory, a sociological theory linking culturally shared meaning with identity, behavior, and emotion in interpersonal interaction (for reviews, see Heise 2007; Robinson and Smith-Lovin 2006).

While many theories have attempted to deal with components of the cultural model separately, affect control theory provides a unifying multi-level framework, which rectifies many shortcomings of earlier models by simultaneously accounting for individual cognition and emotion, situational and institutional context, and cultural meaning. The dissertation begins by introducing affect control theory, which considers cultural meanings to be societally bound, based on consensual and widely shared sentiments, and stable over long periods of time. We advocate several refinements to the theory's assumptions about culture, proposing that cultural sentiments are dynamic and structurally contingent, and that mechanisms operating within social networks serve as important sources of meaning consensus and change.

The remainder of the dissertation presents empirical evidence in support of our propositions. First, we draw upon primary survey data to show how social position and patterns of social connectedness relate to inculcation into the dominant culture and commonality with the affective meanings of others. Respondents' demographics, social position, social connectedness, network composition, and experiences in close relationships are explored as predictors of inculcation and commonality in meaning. Second, through an experimental study, we explore social influence processes as a mechanism of cultural consensus and change. Analyses examine both conditionally manipulated features of the group structure and respondents' emergent assessments of social influence as predictors of change in task-related attitudes and affective meanings.

Our results identify structural sources of normative differentiation and consensus, and introduce social networks methodologies as a means of elaborating affect control theory's explanatory model. More broadly, the findings generated by this project contribute to an ongoing academic discussion on the origins of cultural content, exploring the complex and dynamic relationship between patterns of social interaction and cultural affective meaning. We close by introducing research in progress, which examines predictors of clustering in affective meaning and explores how values, self, and identity condition the effects of social influence on decision-making.

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# 1. Introduction

Early sociological theorists primarily understood culture as a “seamless web” (cf. Geertz 1973), coherent and integrated among members of a given society. Most classic sociological work on culture sought to identify the beliefs and ideas that formed the basis of a group or society’s shared culture, which was understood to structure social behavior in significant ways. Durkheim, for instance, viewed culture as a set of symbols, beliefs, and ideas that are socially shared and (re)produced through social interaction (Durkheim and Mauss 1963 [1903]). Over time, these collective representations become something greater and more durable than the individual representations from which they emerged (Durkheim 1974 [1898]). Parsons would later define culture as “patterns of values, ideas, and other symbolic-meaningful systems [which are] factors in the shaping of human behavior” (Kroeber and Parsons 1958: 583). These and other “seamless web” theories represent cultures as patterns of shared meaning essential in producing structured action (Parsons 1967 [1937]), but also as discrete and largely unchanging entities linked more or less inextricably to groups.

By the middle of the 20<sup>th</sup> century, limited empirical evidence for a direct correspondence between values and action began to wear away at the dominance of such models of culture. Disenchantment with functionalist representations of culture, Parsonian action theory in particular, led to the development of alternative conceptualizations. The symbolic interactionist approach offered a direct rejoinder to Parsons, arguing that meanings internalized from the larger social order are not passively reproduced by individual social actors. Instead, actors respond based on the

meanings they attach to particular symbols and their interpretation of particular social situations, and adjust their behavior in view of the relationality of self and other (Blumer 1969; Mead 1934). Another active or negotiated view of culture was offered by theories of culture as a repertoire (Tilly 1992) or toolkit (Swidler 1986) of social resources, which can be applied in a variety of different ways to construct strategies of action.

Symbolic interactionism and repertoire theories share with earlier theories the basic observation that social behavior is importantly shaped by broadly shared cultural meanings. In contrast with earlier theories, however, they propose that the cultural meanings carried within the human mind are diverse, contradictory, and dynamic, and understand people as active negotiators and users rather than passive recipients and reproducers of cultural meaning. In this view, culture provides the means for action, rather than determining its necessary ends. Research from cultural anthropology, cognitive psychology and neuroscience converge with this understanding of culture in suggesting that human cognition is fragmented—variable across people, situations, and time (see DiMaggio 1997).

In many cases cultural meanings reproduce societal structures, supporting stability and consensus. This contributes to the fluidity of social interaction, but can also explain the durability of social inequalities. However, culture is constitutive of, and not merely produced by, structural arrangements. Modern sociologists of culture seek to adequately capture both the structured and negotiated elements of cultural meaning, so as not to over-determine the rationality and predictability of social actors or suggest that they have unfettered freedom to negotiate meaning. While studies of the structuration of



meaning provide a window into the reification of structural inequalities, the study of variation enables us to grasp how cultural meanings change over time and what may enable or prohibit the success of attempts to challenge dominant interpretations (e.g., Britt and Heise 2000; Smith-Lovin and Douglass 1992).

Research from neuroscience, psychology, and sociology has begun to coalesce around a common interest in studying how cultural frames or interpretations are situationally cued. Both the mental organization of cultural information (via schemas, logics, frames, domains) and the situational cues that activate mental structures (provided by institutional settings and role relationships) are now understood as essential to manifestations of culture in social interaction (see Cerulo 2010; DiMaggio 1997). Stability in our cultural beliefs comes from these structures – schematic organizations in the brain and cues from the social environment. In other words, cognitive and social constraints place a functional limitation on the potential openness of social interpretations and behavioral response. Despite the complexity of modern social life, people switch between social roles fluidly, and without experiencing substantial role conflict (e.g., Danna-Lynch 2010). Schema-based processing contributes to the fluidity of perception, simplifies interpretations of others' behavior, and prompts accurate and coordinated action, while minimizing the expenditure of cognitive resources (Barresi and Moore 1996).

Given our limited capacity for conscious self-regulation, cognitive responses to the social world are importantly influenced by situational factors beyond our awareness (Bargh and Chartrand 1999). Thus, role activation provides an important link between

schemas and social context, and institutionalized patterns of role relations integrate broad societal cultures with group and network memberships (McCall 1987).

Institutional environments and social networks are important structural sources of produced culture. In turn, internalized cultures can define the institutional environments in which actors are routinely embedded, and condition the composition of their social networks (Emirbayer and Goodwin 1994; Vaisey and Lizardo 2010).

### ***1.1 Dissertation Overview***

A strong model of culture should capture both the structured and negotiated elements of cultural meaning, allowing for the fluidity of social action and the agency of social actors. It is therefore essential to establish clear mechanisms which guide how individuals interpret social events or apply a set of cultural meanings in defining a particular social situation. As such, this dissertation focuses on the model of culture forwarded by affect control theory, a sociological theory linking culturally shared meaning with identity, behavior, and emotion in interpersonal interaction (for comprehensive reviews, see Heise 2007; Robinson and Smith-Lovin 2006). The theory draws upon a symbolic interactionist view of social behavior (Blumer 1969; MacKinnon 1994; Mead 1934), as well as theories of psychological consistency (Heider 1946; Osgood and Tannenbaum 1955; Simon and Holyoak 2002) and cybernetic control (Carver and Scheier 1998; McClelland and Fararo 2006). In contrast with the inductive approach of traditional symbolic interactionist research, affect control theory relies primarily on quantitative and affective representations of cultural meaning, and is rooted in

empirically established mechanisms of situated impression formation and change (Heise 1979; 2007; MacKinnon 1994).

While many theories have attempted to deal with components of the cultural model separately, affect control theory provides a unifying multi-level framework, which can rectify the shortcomings of earlier models by simultaneously accounting for individual cognition and emotion, situational and institutional context, and cultural meaning. Moreover, the theory draws upon a formalized mathematical model to generate precise predictions about likely behaviors and emotions in specific situations from the general theoretical mechanisms described by the theory. Chapter 2 introduces affect control theory and discusses the theory's general representation of cultural meaning. We advocate several refinements to the theory's assumptions about culture, and the primary goals and hypotheses of the dissertation are discussed relative to these proposed refinements.

The remainder of the dissertation presents empirical evidence in support of the propositions offered in Chapter 2. First, we draw upon primary survey data to show how social position and patterns of social connectedness relate to inculcation into the dominant culture and commonality with the affective meanings held by others. Chapter 3 describes the design and methodology of the original survey research used in these analyses. Approximately 300 undergraduate students completed the survey, which measured their socio-demographic characteristics, social position, experiences in close relationships, ties to prestige-diverse groups both on and off campus, and affective meanings for various social groups. We collected data at two socio-demographically

distinct universities to ensure the diversity of our sample, and expanded upon the social network measures used in earlier research (i.e., Thomas and Heise 1995; Wisecup 2011). For instance, we assessed the number of ties per position accessed and distinguished strong ties from weak ties. To pursue untested hypotheses proposed by Thomas and Heise (1995), we also collected information about respondents' experiences in parental and romantic relationships. We discuss the construction of each measure included, and our methods in data collection.

Chapter 4 draws upon the affective meaning data from this research to explore variation in and predictors of respondents' level of enculturation – their consensus with others or ability to represent the dominant affective meanings of the larger culture. Following Heise (2010) and Wisecup (2011), we calculate two measures of enculturation, which reflect respondents' inculcation into the prevailing affective culture and commonality with the affective meanings of others. Afterward, we examine the extent to which a variety of social structural variables can explain variability in enculturation. Specifically, respondents' demographics, social position, social connectedness, network composition, and experiences in close relationships are explored as potential predictors of inculcation and commonality. Where possible, results for the present sample are compared with those identified by Heise (2010) and Wisecup (2011), and new predictors of enculturation are identified.

Afterward, through an experimental study, we explore how social influence processes contribute to the emergence of normative consensus in cultural meaning over time. Chapter 5 describes experimental research testing the effects of social influence

processes on both attitudes and cultural meanings. Approximately 180 undergraduates participated in a computer-mediated group interaction with a research confederate, during which the group deliberated over the resolution of a sexual harassment claim, described in a vignette. Three features of the group interaction were manipulated: the leader's expressed attitudes, the leader's behavior, and the attitudes of a third group member. Analyses examine our conditional manipulations and respondents' emergent assessments of social influence within the group as predictors of change in respondents' opinions about the truth of the claim, opinions about the resolution of the claim, and affective meanings for a set of identities pertaining to the claim.

Finally, Chapter 6 reviews and summarizes key findings of the dissertation research, and highlights their contributions to the sociological literature. This chapter also discusses some limitations of the present research and directions for future research.

## 2. Representations of Culture in Affect Control Theory

As mentioned previously, affect control theory draws upon a symbolic interactionist view of meaning-making and social behavior. The symbolic interactionist tradition in sociology is based upon three principles: (1) people act toward things (e.g., objects, institutions, behaviors, and other people) based upon the meanings they hold for them, (2) these meanings primarily arise from social interaction with others, and (3) meanings are managed or changed through an interpretative process (Blumer 1969: 2). Actors are fundamentally understood as meaning-creators, who interpret what is happening around them in terms of the meanings they have established through past interactions, and who actively generate new lines of action to maintain a coherent and meaningful view of themselves and others.

In the symbolic interactionist view, collective experiences with the social environment are reflected in broad consensus about the meaning of particular linguistic symbols, leading to the structuration of individual minds in accordance with collective meaning (Blumer 1969; Mead 1934). Thus, shared semantic structures reflect the institutional and symbolic order of societies (MacKinnon and Heise 2010). Individuals are motivated to maintain shared cultural meanings through their situated behavior, as they rely on these semantic structures to arrive at a mutual understanding of the situation when interacting with one another. Linguistic categories provide the “common ground” (Clark 1996) that allows for efficient communication and enables people to coordinate social action.

## **2.1 Affect Control Theory**

Affect control theory is a generative model, which translates institutionalized meanings for various roles and identities into predictions about behavior and emotion in social interaction (Heise 1979; 2007; MacKinnon 1994). The theory extends the classic symbolic interactionist paradigm in two respects. Conceptually, it assigns a central role to affect and emotion in the process of creating and maintaining meaning in social interaction. Methodologically, it holds that meaning can be quantified and measured, deviating sharply from the predominantly interpretive approach of symbolic interactionism. The theory is comprised of three main components: (1) a parsimonious dimensional structure, which allows for representation of diverse social elements using a common mathematical framework, (2) impression change equations, which allow for representations of these elements to be contextualized within social events, and (3) a cybernetic control mechanism, which generates stability between culturally-shared and event-situated representations over time and across social contexts.

### **2.1.1 Dimensional Structure**

Affect control theory is based upon the understanding that social concepts and events can be characterized by the affective responses they elicit. The theory uses three parsimonious and cross-culturally universal dimensions in the measurement of these affective responses: evaluation, potency, and activity (or *EPA*; Osgood 1962; Osgood, May, and Miron 1975; Osgood, Suci, and Tannenbaum 1957). While ratings of *evaluation* denote goodness versus badness, *potency* denotes power versus powerlessness, and *activity* represents liveliness versus inactivity. Combined, the dimensions summarize

important information about a variety of elements key to interpretations of social events (e.g., identities, behaviors, emotions, and settings), enabling researchers to examine the complex semantic relationships between these elements across institutional settings. Moreover, they are associated with the relative power, status, and agency of social groups, elements of social classification that importantly shape emotional experience and behavioral choice (Heise 1999; Kemper 1978; Kemper and Collins 1990).

Ratings on these dimensions, known as *sentiments*, reflect widely-shared affective responses to given symbols within a culture or subculture, intrinsic to the institutional and symbolic order of societies (Heise 2010; MacKinnon and Heise 2010). As people rest on these semantic structures to generate a shared understanding of the situation, consensus in the sentiments attached to various social identities, behaviors, emotions, and settings allows people to communicate effectively and efficiently. For example, the concept mother is typically associated with positive, powerful, and active sentiments, which bring about specific expectations on the course of situations and interactions (e.g., mothers are more likely to cuddle than ridicule a child). Research has demonstrated a great deal of stability in sentiments for core, institutionalized identities (e.g., kinship roles) across a variety of important social dimensions (age, race, socioeconomic status, region, nation) and over time (Heise 2007). Nonetheless, there are some variations in sentiment within and between national cultures, particularly for identities that are less institutionalized.

Sentiments are quantified through large-scale *dictionary studies*, where respondents rate hundreds of actors, behaviors, emotions, and modifiers on evaluation,



potency, and activity. Ratings are averaged across respondents to eliminate idiosyncrasies of personal experience; a single mean value represents cultural sentiments toward each concept in three-dimensional affective space. Thus, social entities that share similar meanings cluster near one another, and proximity indicates correspondence between concepts.

### **2.1.2 Impression Change**

Affect control theory reconciles the tendency for broad consensus in cultural sentiment with creative or even counter-cultural individual interpretations by allowing for shifts in affective responses within the context of social events, known as *impressions*. Impressions are the transient affective responses that we attach to concepts embedded in the context of a given social event. In other words, impressions are the contextualized meanings we attach to actors, behaviors, and objects in our perception of an event. Ratings of sentiments for identities, behaviors, and emotions out of event context can be compared with impressions of events containing these elements, to determine the mechanisms linking the two.

Social events are represented by a sentence-like grammar, wherein an actor (A) behaves in a certain way (B) toward an object-person (O). Consider the following event: the mother cuddles the child. In this event, the mother is the actor, cuddling is the behavior, and the child is the object-person. This ABO grammar is translated into a mathematical representation of each element using ratings of evaluation, potency, and activity (e.g., mother: 2.48, 1.96, 1.15 on scales ranging from -4.3 to +4.3). Shifts in

meaning resulting from events are then modeled using regression equations taking the following basic form:

$$A' = c + b_1A + b_2B + b_3O$$

Predicted impressions of the actor are the result of combined sentiments toward the actor (A), that actor's behavior (B), and the object of the behavior (O). Impression change equations also contain a number of multiplicative effects, which represent the effects of interactions between our sentiments for actors, behaviors, and objects in predicting event-related impressions. When events generate impressions that are fairly confirmatory of cultural sentiments for A, B, and O (e.g., the mother cuddles the baby), actors and objects will continue to engage in behaviors and experience emotions characteristic of their identities. When impressions do not confirm these sentiments (e.g., the mother slaps the baby; the rapist cuddles the baby), however, expectations are violated and restorative measures become necessary (see Control Mechanisms).

In elaborations of the basic equation, affect control theorists regress generalized sentiments toward event elements on contextualized impressions of actors, behaviors, and objects to learn how sentiments combine in forming impressions (Smith-Lovin 1987). The estimation of such equations has provided considerable insight into the mechanisms of impression change through social events. For example, our perceptions of actors, behaviors, and objects out of context importantly shape our impressions of them in events. Actors are evaluated more positively when they occupy positive identities (Ae: *stability effect*), when they engage in nice, weak, and quiet behaviors (Be, Bp, Ba), and when they interact with higher versus lower status others (Oe).

A number of interesting multiplicative effects have also been identified, many of which support mechanisms of impression formation discussed by other sociological theorists (e.g., Heider 1958). For example, actors are evaluated more positively when they behave in ways that match their status (*AeBe: consistency effect*), when the evaluation and potency of their behaviors are suited to the status and power of the object respectively (*BeOe, BpOp: balance effect*), and when directing good acts at a weak person or bad acts at a powerful person (*BeOp: social responsibility effect*).

Affect control researchers model the behavioral and emotional outcomes of social events using a computer program called Program Interact (Heise 1997). This program populates impression change equations with dictionary data, allowing researchers to derive precise predictions about likely behaviors and emotions in specific situations from the general theoretical mechanisms described by the theory. Program Interact uses impression change equations to compute optimal, meaning-maintaining locations in affective space. Actors are more likely to display behaviors and emotions with affective profiles close to these locations on evaluation, potency, and activity. Predictions generated in this way account for actual behavior and emotion in real-world social interactions (e.g., Heise and Lerner 2006; Robinson and Smith-Lovin 1992).

### **2.1.3 Control Mechanisms**

Symbolic interactionists have long argued for a fundamental motivation to maintain shared meanings regarding cultural symbols. Similarly, affect control theory is built around the *affect control mechanism*, a cybernetic process that functions to maintain fluidity between internalized cultural sentiments and transient, momentary impressions,

minimizing the expenditure of conscious effort and cognitive resources in event processing. Cultural sentiments provide a reference standard (like the temperature setting on a thermostat), while transient impressions fluctuate with event context (like the ambient temperature in a room). Discrepancies between the two instigate a control process, wherein corrective action is taken to maintain balance in the system (such as heating or cooling the room).

This mechanism is cognitively efficient, as conscious effort need not be exerted until expectations are violated, and generates overall stability in the system, allowing for ease of communication between members of a culture. However, it also provides for individual agency. Impression formation models provide a range of possible confirming responses to events, which allow for actors' creativity in more or less equally satisfying the motive for confirmation of sentiments. Thus, the affect control principle reconciles systemic stability with individual agency. Furthermore, the theory illustrates how cultural meanings can be maintained even when actors occupying the same identity behave in distinct ways.

When the impressions generated by an interaction do not confirm sentiments for the actor, behavior, and object involved (e.g., the mother ridicules the child), *deflection* is generated. Conceptually, deflection is the discrepancy between generalized cultural sentiments and event-contextualized impressions; mathematically, deflection is operationalized as the squared Euclidean distance between sentiments and impressions on evaluation, potency, and activity. As it is extremely uncommon for an event to

perfectly confirm sentiments or any behavior to perfectly restore them, all interactions produce some amount of deflection.

People often attempt to avoid situations likely to be deflecting, or seek to prevent deflection by controlling the definition of the situation through means such as self-presentation (Goffman 1959; Hochschild 1979; Smith-Lovin and Heise 1988). When deflection occurs, it is most commonly resolved by action – the initiation of a new event. People seek to engage in behaviors that best maintain or restore sentiments for the role relationships established within the interaction, bringing stable cultural sentiments and transient situated sentiments back into line with one another (Heise 1979; 2007; Robinson and Smith-Lovin 1992). Thus, behavioral control is a mechanism that functions to maintain congruency between fundamental (“ought”) and transient (“actual”) affective meanings, through the maintenance or restoration of cultural standards.

In sum, affect control theory proposes that situated behavior and emotion result from fluctuations in cultural meaning that accompany interpretations of social events. Individual behaviors and emotions are inherently tied to the social order, as people make sense of events using concept meanings that follow cultural patterns. The theory is of clear utility in understanding the maintenance of cultural content, behavioral and emotional responses to cultural sentiments within interaction, and the potential implications of interaction with certain types of role others. However, scholars have only recently started to use affect control theory in exploring possible disparities in meaning across social space or mechanisms of sentiment change. These are central goals of the

proposed research, which expands research on affect control to consider processes central to norm formation.

## ***2.2 Culture in Affect Control Theory***

Affect control theory is most centrally concerned with the processes by which cultural meanings, once determined, are invoked and maintained within the context of social interaction. As a result, culture is primarily understood by affect control theorists as mutual and durable systems of meaning, manifested in language-based norms for sentiment and event processing. The theory rests upon three related assumptions about culture, understanding culture as (1) fundamentally a feature of societies, (2) consensual and based on widely shared sentiments, and (3) stable, with sentiments remaining largely the same even over long periods of time. The theoretical and empirical consequences of each assumption will be considered in turn.

### **2.2.1 Culture as Societal**

First, while acknowledging that sentiment norms are, by their very nature, a poor reflection of variation among individuals (see Heise 2010), affect control theory views culture as nonetheless marked by consensus at the societal level. Because almost “all groups in a society are networked together by [bridging social ties]... society-wide, cultural norms form over time as normative sentiments pass back and forth between groups” (Heise 2007: 13). Thus, individuals’ sentiments about particular identities, behaviors, and emotions are largely based on cultural (i.e., societal) affective norms, which serve as the basis of mutual understanding within social interactions. By hearing how others react to, talk about, and behave toward various types of people, a person’s

engagement in social or socially-relevant interactions (e.g., observing strangers, interfacing with mass media) organically pulls their sentiment toward the cultural norm. In accordance with this perspective, research in the affect control tradition tends to emphasize consensus within societies (e.g., Heise 2007), while demonstrating appreciable differences between certain nations' average sentiments toward particular identities and behaviors (e.g., Heise 2001).

Although cultures are seen as unified and coherent, individual members of any culture are expected to have varying levels of cultural expertise and normativity, and therefore vary in their ability to accurately represent this "underlying uniformity" in responding to surveys of culture (Heise 2010: 2). In other words, the precision of any estimate of sentiment norms is bounded by respondents' cultural inculcation and idiosyncratic feelings about the set of concepts, and clouded by measurement error (Heise 2007; 2010). In order to gain the best possible information about society-wide cultural norms, surveys of culture therefore favor questions of interpersonal agreement over questions of diversity, privilege information from cultural experts, and sample primarily from sites of cultural reproduction. Consequently, they "provide meager data about variations among diverse individuals within the society at large" (Heise 2010: 3). Instead, cultural surveys of university students primarily inform us about the "middle-class sentiments sustaining social institutions" (Heise 2010: 122). Nonetheless, mean concept ratings are often used as a proxy for cultural norms, despite advantaging representations of some groups' sentiments to others. Considerable research in the affect control tradition has relied upon these measures to compare differences between societal

cultures (e.g., Smith and Francis 2005; Smith, Matsuno, and Ike 2001; Smith, Matsuno, and Umino 1994), and to assess change in these cultures over long periods of time (MacKinnon and Luke 2002).

While we agree that social structural trends toward normative equilibrium are a critical component of cultural negotiation and stability, we caution that these forces do not ensure that consensus will emerge at the societal level. Despite the obvious social structural and institutional contingencies of the nation-state, globalization and communication technologies increasingly support social networks that extend beyond national borders. Accordingly, the same studies that indicate national differences in normative sentiment demonstrate considerable transnational similarities (Heise 2001; 2007; Smith, Matsuno, and Umino 1994). Furthermore, studies of certain subnational (in affect control theory, “subcultural”) groups reveal a degree of variation in affective norms that is comparable to or even larger than that cited as evidence of national differences (e.g., King 2008; Kroska 2001; Smith-Lovin and Douglass 1992). Thus, by selecting the national level as a cutpoint for the measurement of normativity, researchers may be creating a spurious, constructed cultural divide. As an alternative, our research examines the hypothesis that normative consensus operates through social networks. Social influence processes are explored as one source of normative consensus in cultural meaning in Chapter 5.

### **2.2.2 Culture as Broadly Shared**

Second, because affect control theory views sentiments as normative and thus widely shared within a given society, the theory further assumes relative homogeneity



of sentiment, that “individual sentiments are close to the average value” (Heise 2007: 15). Therefore, sample averages of sentiment values taken from a limited subset of “cultural informants” are thought to provide a strong estimate of national cultural norms, “revealing the regularities that underlie the set of measurements” (Heise 2007: 17). This line of argument has been supported by studies demonstrating that data collected from diverse groups, from members of the military to college undergraduates, tend to yield average sentiments that are not appreciably different (Heise 2001; 2007).

However, a theoretical perspective oriented to the regularity of affective meaning yields a methodological approach designed to identify precisely this regularity. As stated by Heise (2010: 2), surveys of culture in general (and affect control theorists’ measurement of mean sentiments in particular) are “intended to build a descriptive database regarding norms, and therefore lack of variability on every item is the ideal, since response variation confounds the delineation of norms.” Thus, the use of mean sentiment in representing the norms of a given population (deliberately) conceals heterogeneity at the subcultural level (e.g., Thomas and Heise 1995). While it is important not to overemphasize individual differences relative to social consensus, the identification of systematic variance in affective meaning is an untapped resource in understanding the mechanisms of norm formation.

In fact, research in affect control theory has itself pointed to the significance of subcultural differentiation, without fully entertaining the implications of subcultures for the theory’s mathematical underpinnings. Heise (2007: 21) defines a subculture as “special meanings maintained within a sub-population of a society. Any aggregate of

people who segregate some of their interactions may develop a subculture.” Many researchers have attended to “deviant” groups as exemplars of subcultural meaning, including as alcoholics (Thomassen 2002), criminals (Kalkhoff 2002), the mentally ill (Kroska and Harkness 2006), and those occupying conflicting identities, such as homosexual Christians (Smith-Lovin and Douglass 1992).

One noteworthy and oft-studied exception, however, demonstrates how far-reaching and theoretically significant the notion of subcultures can be – the case of gender subcultures. Despite the frequency with which men and women interact, the partial segregation of their interactions has been linked with somewhat distinct patterns of cultural meaning and processes of impression formation. In fact, the structural equations commonly used by affect control theorists in simulations of social interaction have been differentiated on the basis of gender, though no other indicators of social position are taken into consideration (Heise 1991). As described by Heise, this solitary distinction was not an exception in theoretical assumptions for the case of gender, but was primarily motivated by a lack of sufficient cell size to differentiate the equations by other socio-demographic characteristics.

Thus, there is a fundamental inconsistency between the logic and method of affect control theory. While arguing that individual sentiments tend toward the societal norm, research also identifies the existence of normative subcultures, within which sentiments may diverge from the cultural norm to a greater extent than the average variance between societies. This begs the question: What differentiates a culture from a subculture, and how do we draw the boundary? If characteristics as broad as gender can

be considered distinct subcultures, then members of a given society are also members in any number of subcultures. Including these as nominal characteristics in a structural model would not only be impractical but theoretically tenuous. However, the mere existence of such pockets of differentiated meaning is sufficient to suggest that consensually shared sentiments may be maintained at the subcultural level, defined through habitual interaction within social networks. Accordingly, research suggests that systematic variation in culturally shared sentiments as measured by affect control theory is at least partially attributable to mechanisms operating within social networks (Thomas and Heise 1995). The research presented herein explores this hypothesis, to better understand network-based variation in affective sentiment.

### **2.2.3 Culture as Stable**

Third, affect control theory argues that societally shared sentiments are largely stable over time. This perspective has been supported by research demonstrating that, depending on the dimension of meaning and the identity or behavioral target in question, normative societal sentiments are moderately to highly correlated over periods as long as 25 years (Heise 2007). However, even this level of dissimilarity is significant given that we are dealing with variation in values averaged across respondents, and that correlations are much weaker for some dimensions of affective meaning than for others. Even a low level of change in sentiments is worth attention, as it may indicate social structural changes that are obscured by the methods of data collection and analysis. This line of reasoning is supported by a 14-year longitudinal study of Canadian normative sentiments, which demonstrates that “collective attitudes for social identities are quite

stable over time, [but] the residual variance is sufficiently large to suggest that important changes in identity attitudes have taken place” (MacKinnon and Luke 2002: 299).

Precisely this sort of “residual variance” is at the heart of the research presented here.

Because network structures are dynamic across social space and time, we should expect the same of sentiments. As old attachments falter and new ones form, it is neither guaranteed that inertia will lead to the reification of societally consensual sentiment, nor that this sentiment will remain fixed over time. Therefore, the present research moves beyond culture versus subculture to develop an approach that can account for the social impact of a broad range of structural characteristics and consider how the effects of these characteristics are likely to unfold over time. In this way, the assumptions of affect control theory regarding culture become testable hypotheses and sites of exploration for the mechanisms of cultural stability and change.

#### **2.2.4 Shared Variation in Cultural Meaning**

In recent years, affect control theorists have taken new interest in discovering patterns of variation in cultural meaning, and exploring the aspects of social position and social connectedness most important in predicting shared variation. This interest has been fueled, in no small part, by the foundational research of Thomas and Heise (1995), which used K-means cluster analysis to identify systematic variation in identity and emotion meanings. Cluster analyses revealed significant patterns of variation for ratings of most concepts examined in the study, leading the authors to conclude that “mean [evaluation-potency-activity] ratings may provide an overly simplified representation of sentiments in a population” and propose that “it may be more

meaningful to conceptualize even a culturally homogeneous population as composed of distinct subsets of respondents with regard to some sentiments” (Thomas and Heise 1995: 430).

In a follow-up study, the authors conducted in-depth interviews with nine respondents, focusing on a small number of the concepts examined previously, shown to maximally discriminate subsets of respondents (Thomas and Heise 1995). From these interviews, the authors formed several preliminary hypotheses about the predictors of shared deviation. First, they proposed that people who are socially isolated (i.e., with few structurally redundant ties) have sentiments that fall close to zero for most concepts. In contrast, those who are socially well-connected (i.e., with many structurally diverse ties) have more intense, better-differentiated sentiments. Second, they proposed that people’s experiences in parental and romantic relationships shape their sentiments for some identities. Specifically, punitive parenting and the disruption of close romantic involvements were expected to shape perceptions of “violent” roles (e.g., gunman, bully), with potentially distinct effects for males and females. Gender differences in sentiment were proposed to stem from males’ routine operation in social positions of relative power, and females’ routine operation in positions of relative powerlessness.

In sum, Thomas and Heise (1995) hypothesized that the relative power of a person’s social position and the extensiveness, stability, and character of their social ties are potential predictors of their divergence from normative sentiments. More recent work, discussed above, proposed social network processes as essential to the emergence of normative meanings, giving a central role to bridging social ties (e.g., Heise 2007).

Due to the lack of affective and socio-demographic data from a sufficiently diverse sample, however, empirical evidence for these claims has been limited. Wisecup (2011) set out to test several of the potential predictors of variation in sentiment identified by Thomas and Heise (1995) and Heise (2007), drawing upon a diverse community sample to rectify the limitations of earlier work. Her research tested whether respondents' proximity to middle-class sentiments and social connections to diverse alters predicted their reliability and interpersonal agreement in assessing normative sentiment.

Results identified greater consensus for judgments of evaluation than for judgments of potency and activity, and suggested that socio-demographic distance between respondents is negatively associated with interpersonal agreement in sentiment (Wisecup 2011). Though rarely reaching the threshold for significance, findings also provided initial evidence that race, education, income, and social network composition may predict some differences in respondents' cultural inculcation and reliability. However, despite identifying some signs of systematic variation, Wisecup (2011: 185) interpreted her results primarily as evidence of widespread uniformity in sentiment, as "diverse respondents' sentiments for core social identities [were largely found to] mirror the sentiments of the predominantly white, young, middle-class, Midwestern respondents." In addition, the non-significance of her social network models suggests that networks do not substantially constrain or enable the development of culturally normative sentiments for common social identities. Wisecup argued, however, that future research should continue to pursue these questions, citing measurement strategy and sample size as central limitations of her research. She further proposed that "the

remarkable degree of affective similarity [found in her research] may result from the types of identities employed rather than firm evidence of consensus” (Wisecup 2011: 6).

The present research seeks to expand upon Wisecup’s (2011) work in several ways. First, by conducting our research within a university context, we were able to recruit a sample more than twice as large as was possible in Wisecup’s community-based research, and to make several improvements to the methodology used during data collection (see Survey Measures and Methods, below). Second, Wisecup’s survey design emphasized common social identities which are likely to be shared, such as occupations and kin relationships. While retaining many such identities, we also sought to include more contested social identities, and to represent a diverse collection of affective arrangements on dimensions of evaluation, potency, and activity. Third, we incorporated new measures of social connectedness to identify the features of social networks most important in shaping affective meaning. We used both institution-specific and broad, occupational position generators to assess respondents’ social network composition. We gathered estimates of the number of ties per position accessed, distinguished strong ties from weak ties, and assessed social homophily and organizational memberships. Fourth, we included measures allowing us to test Thomas and Heise’s (1995) hypotheses about the significance of respondents’ experiences in close relationships in shaping their identity meanings. Finally, through experimental research, we explored social influence processes as formative to situated meaning—a possible mechanism of the networks-based consensus postulated by Heise (2007).

More broadly, this dissertation explores the idea that cultural meanings contain an element of systematic variation which is intrinsically linked to one's social position and patterns of social connectedness. While affect control theory understands cultural meanings as societal and broadly shared, we (1) show that these meanings are more consensual and more reliable among those occupying particular social positions and embedded in particular types of social networks, and (2) identify systematic variation in the cultural meanings for particular social identities. The chapter that follows will introduce that original survey research used in developing this empirical work, the results of which are detailed in Chapter 4. In addition, affect control theory understands cultural meanings as quite stable over long periods of time. In Chapter 5, we present experimental research suggesting that networks-based social influence processes can shape cultural meaning dynamics through social interaction. We now turn to a discussion of the measures and methods used in our survey research.



### **3. Survey Measures and Methods**

As described at length in Chapter 2, the survey research presented herein was designed to explore variability in affective meaning, and to replicate and extend the effects found by Thomas and Heise (1995) and Wisecup (2011). The central goals of this research were (1) to identify systematic variation in respondents' cultural meanings for particular social identities, (2) to show that variation in the consensus and reliability of these meanings is associated with respondents' social position and patterns of social connectedness, and (3) to explore the relationship between these structural variables and the content of respondents' cultural meanings for particular identities.

#### **3.1 Survey Construction**

Following Wisecup (2011), we examine socio-demographic characteristics, social position, and network connectedness as predictors of cultural inculcation and reliability. However, several adjustments were made to the study design in light of the limitations of this earlier work. While Wisecup's community-based sampling method yielded a marked increase in socio-demographic diversity as compared to university-based sampling, additional measurement error was likely introduced by data collection methods. Each respondent participated in his or her own home, reducing researcher control over environmental stimuli, and data were collected on Palm Pilots, which did not allow for the randomization of survey measures. By returning to the university-based sampling method common to affect control research, we were able to ensure that all respondents would complete the survey in a controlled environment. We used Surveyor software, developed by affect control theorists to minimize measurement error

during data collection in several ways: by randomizing the order of stimuli, the order of rating scales, and the orientation of the scale endpoints, and by allowing respondents to skip unfamiliar concepts and rate them at the end of the study if they so choose.

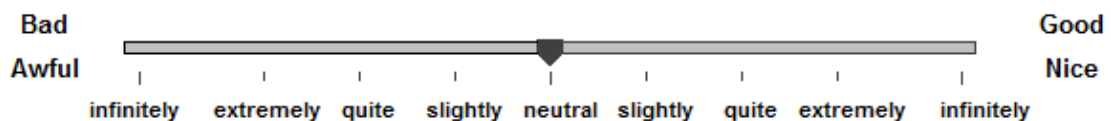
Additionally, Wisecup's (2011) community-based sample was not large enough to allow sufficient flexibility in variable construction. To ensure the diversity of our sample, we collected data from the undergraduate populations at two socio-demographically distinct universities – a private research university and a public, historically black university located in the same city, only miles apart. This recruitment method allowed us to more than double the sample size of Wisecup's research. In contrast with many earlier surveys of culture by affect control theorists (e.g., Thomas and Heise 1995), we had all respondents complete all survey measures, allowing for the largest possible cell size given our sample size in comparisons of variation in sentiment. As mentioned previously, we expanded upon the socio-demographic and network measures collected by Wisecup (2011), gathering estimates of the number of ties per position accessed, distinguishing strong ties from weak ties, and exploring social homophily and organizational memberships. To pursue some of the yet untested hypotheses proposed by Thomas and Heise (1995), we also collected information about the quality of parental and romantic relationships. In the sections that follow, we discuss at length the construction of each measure included in the present research.

### **3.1.1 Affective Meanings**

Focusing specifically on identity groups, a core set of the concepts rated in this study were taken from Thomas and Heise (1995). In addition to emotion words and

emotion-identity combinations, Thomas and Heise had respondents rate 64 identities, which were judged to represent a diverse array of combinations on the dimensions of evaluation, potency, and activity (e.g., Smith-Lovin & Heise, 2006). Pre-tests suggested that some of the original stimuli be dropped as undergraduates were unfamiliar with their meaning, and tended to respond to them in ways that were difficult to interpret. Supplemental identities were selected by examining a set of affective ratings from past research in affect control theory and identifying those with affective profiles similar to the identities that were removed.

The final measure included 63 identities adapted from Thomas and Heise (1995) and four self-identities: myself as I really am, myself as others see me, myself as I would like to be, and myself as others would like me to be (see Appendix A for a full list). These identities were selected to represent diverse arrangements on affective dimensions and diverse social domains (e.g., family, law, medicine, lay identities, etc.). Respondents were instructed to answer three questions for each identity rated, which refer to evaluation, potency, and activity respectively: (1) How good is this type of person? (2) How powerful is this type of person? and (3) How active is this type of person?



**Figure 3.1: Semantic differential scale used in collecting affective meaning data.**

Ratings were submitted on semantic differential scales for each of the three dimensions of meaning (see Figure 3.1). Responses could range from -4.3 to +4.3, with 79

response points discriminated on the scale, maximizing our ability to detect variation in response patterns. The endpoints of the scale were labeled with the anchors established in earlier studies of sentiment (see Heise 2001; 2010) – “bad, awful” to “good, nice” for judgments of evaluation, “powerless, little” to “powerful, big” for judgments of potency, and “slow, quiet, inactive” to “fast, noisy, active” for judgments of activity. Points along the scale were also anchored with the adjectives neutral (0), slightly (-1/+1), quite (-2/+2), extremely (-3/+3), and infinitely (-4.3/+4.3). This scale format follows earlier research in the affect control theory tradition, and has been established to provide high reliability and validity in the measurement of affective meaning (Smith-Lovin 1987).

### **3.1.2 Position Generators**

Position generators measure respondent ties to a status-differentiated array of social positions. Research using these measures has demonstrated an important relationship between patterns of social connectedness and access to economic, social, and cultural resources (e.g., Flap and Völker 2008, Lin 1999). For instance, those with ties to a diverse array of social positions experience advantages in occupational attainment, income levels, and even performance at work (Boxman, DeGraaf, and Flap 1991; Lin and Dumin 1986; Völker and Flap 2004). As certain ties are sources of non-redundant information (Burt 2001) well-connected individuals’ access to a broadened pool of social resources is an asset, a form of social capital (Lin 2001).

Traditionally, position generators ask respondents to indicate whether they have one or more ties to a variety of occupational categories, which vary in social prestige. However, many variations on the measure have been developed, some of which ask

respondents about their ties to social categories of different types, or focus on ties within a particular institutional context. We used two types of position generators in the present research: a societal position generator (adapted from DiPrete et al. 2011), which measures ties to occupations and other social categories varying in prestige, and a university-specific position generator (adapted from Bryant et al. 2007), which measures ties to prestige-differentiated categories within the institutional setting. Together, the measures help distinguish the relative impact of ties within and outside of the close institutional environment.

For both position generator measures used in the present research, respondents were asked to indicate how many ties they have to each social position specified and whether or not these ties are close. Specifically, respondents were first asked to report whether they are acquainted with anyone from a particular social position, meaning that “the person knows you well enough to remember your name and either of you could strike up a conversation if you ran into each other.” Respondents who indicated that they are acquainted with someone from a given position were asked to specify how many people of this type they are acquainted with. Afterward, they were asked how many people of this type they are close with, and would count among their “good friends, people you discuss important matters with or trust for advice.”

These elaborations of the traditional position generator were intended to distinguish whether the connection itself is sufficient to provide access to cultural resources, or whether benefits are dependent upon the character (i.e., strength or proliferation) of social ties. In other words, is any connection to a social position

sufficient to provide access to its cultural resources, or are these resources are contingent upon the strength of the social tie, or the number of ties to a given part of the status hierarchy? In the present research, acquaintances were considered weak ties, while close friends were considered strong ties. The final position generator measures are included in Appendix B.

### **3.1.3 Network Composition**

To expand upon the features of social networks considered in our analysis, we included assessments of both homophily (McPherson, Smith-Lovin, and Cook 2001) and participation in campus organizations in our survey. We asked respondents to answer three questions about the homophily of their localized friendship networks, reporting the proportion of their friends within the university who share their race, major, and class year. We assessed respondents' participation in campus organizations by asking them to report whether they are members in any of nine types of groups. We also provided an open-ended response option, where they could report other types of organizational memberships. The full measure is included in Appendix C.

### **3.1.4 Close Relationships**

As discussed in Chapter 2, Thomas and Heise (1995) hypothesized that histories of problematic interaction with parents and romantic partners can condition our affective meanings for particular identities. Two questionnaires were included to test this prediction: the Experiences in Close Relationships Scale and the Parent-Child Interaction Scale.

The Experiences in Close Relationships Scale (Appendix D) explores two dimensions of respondents' attachment style, associated with their attitudes toward romantic involvements: rejection anxiety and intimacy avoidance (Wei et al. 2007). The measure includes 36 questions, each of which is answered on a seven-point semantic differential scale. In the present research, the order of survey items was randomized, and the scale endpoints were anchored at the upper end with the phrase "strongly agree" and at the lower end with the phrase "strongly disagree." Before completing the survey, respondents were instructed as follows:

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it.

The Parent-Child Interaction Scale (Appendix E) explores three dimensions of parenting: positive/warm interactions, angry and punitive parenting, and ineffective child management (Chislett and Kennett 2007). The measure includes 13 questions, each of which is answered on a five-point semantic differential scale. Question order was randomized, and points along the scale were anchored with "never" (1), "rarely" (2), "sometimes" (3), "often" (4), and "always" (5). While the Parent-Child Interaction Scale was originally developed to allow parents to assess their relationship with their children, questions and instructions were amended to reflect respondents' assessment of their relationship with their parents. Respondents were instructed as follows:

For each of the following questions, please reflect on your experiences growing up, and your childhood interactions with your parents. Respond to each statement by indicating how typical this was of your childhood experience.

### **3.1.5 Demographics and Social Position**

Following Wisecup (2011), we asked respondents to report their age, gender, race, and ethnicity. Given that we sampled within the university setting, we also asked for respondents' year in school. To assess respondents' social position, we asked them to report both their mother and father's level of education, employment status, and home and business ownership, as these are considered important proxies for social position among college age respondents (Bryant, Spenner, and Martin 2006). The full list of questions is included in Appendix F.

### **3.2 Data Collection**

A university-based sampling method was selected for this study to ensure adequate sample size and control over the survey environment, and to allow the use of computer-based survey software that minimizes measurement error. Respondents were drawn from the undergraduate populations at two universities – one private university and one historically black public university – in order to acquire a demographically and affectively diverse sample of college students. We hoped to demonstrate that significant variation can be found within even the more homogenous populations commonly sampled in cultural research.

The private university sample was recruited using an established respondent pool, maintained by the administrator of a university-affiliated social science research laboratory. Both university students and members of the nearby community can enroll in the respondent pool, view information about ongoing research studies, and sign up for or cancel participation in these studies through the lab's Sona Systems website.



While the full respondent pool contains about 1,250 students and 650 community members (65% female), participation in the study was restricted to undergraduate students at the university. All study sessions were run at the research lab, in a room with 12 desktop computers separated by partitions (see Figure 3.2).



**Figure 3.2: Research facilities used for private university sample.**

The public university sample was recruited by placing signs around campus, and by sending research assistants out around campus with flyers on the day of the study. Since the university did not have a formal research laboratory or facilities suited for data collection, study sessions were run on campus using the ResearchMobile, a mobile research laboratory funded by a Major Research Instrumentation Grant from the National Science Foundation (see Figure 3.3). The lab has a large atrium and four private study rooms equipped with computers, audio-visual recording and playback equipment, and the capability for psychophysiological measurement.



**Figure 3.3: The ResearchMobile, funded by the National Science Foundation.**

During each site visit, the ResearchMobile was towed to campus and set up in a parking lot near the student union building. Interested students gathered under an awning outside the door of the lab, placed their names on a waiting list, and were brought in incrementally as computers became available. Laptops were placed in each of the lab's four individual study rooms (see Figure 3.4), and an additional six laptops were set up in the lab's atrium at two large conference tables. The computers in the atrium were used only after the private rooms had been filled, and were angled so that no respondent could see another's screen.



**Figure 3.4: Research facilities used for public university sample.**

Data collection followed the same procedure at both universities. After reviewing and signing an informed consent document, respondents were seated in front of a computer, where they completed a series of questionnaires. As described above, respondents were first asked to report their sentiments for each of 67 identity concepts on the affective dimensions of evaluation, potency, and activity. The stimuli were presented in random order to avoid sequencing effects. Second, respondents completed occupational and university-specific position generators, which measured their social ties to diverse and status-differentiated groups both within and outside of the college campus. This was followed by assessments of their network composition and participation in campus organizations. Third, respondents' completed the Experiences in Close Relationships Scale and the Parent-Child Interaction Scale, which measure romantic attachment and parental interactions, respectively. Finally, respondents answered numerous questions about their socio-demographics and social position.

The Institutional Review Board at each university issued approval for this research (see Appendix H). The study lasted between 30 and 45 minutes and respondents were paid seven dollars. Participation was completely voluntary and confidential. There were no conditional manipulations, and all respondents completed the same set of questionnaires. Measures of on-campus social ties differed slightly between the two universities, reflecting the unique spatial and institutional structures in which respondents are embedded (see Appendix B). Detailed descriptions of each measure are available in the section on Survey Construction (3.1), and the full measures are attached in Appendices A-F.

### **3.3 Sample Descriptives**

Respondents included 311 undergraduate students, 152 from the private university and 159 from the public university. The private university sample was comprised of 77 males and 75 females between the ages of 18 and 26 ( $m = 20.4$ ). The majority of these respondents were Caucasian ( $n = 73$ ), African-American ( $n = 29$ ), or East/South Asian ( $n = 31$ ), and fourth-year students ( $n = 62$ ) were overrepresented relative to other class years ( $n_1 = 21$ ,  $n_2 = 33$ ,  $n_3 = 30$ ). More than two-thirds of respondents' parents were currently married ( $n = 106$ ), and the next largest group had parents who were divorced but remarried ( $n = 19$ ). Respondents' fathers tended to be slightly more educated than their mothers, and both parents tended to have taken college courses ( $n_m = 52$ ,  $n_f = 42$ ) or completed college ( $n_m = 36$ ,  $n_f = 33$ ). Fathers were about twice as likely as mothers to have completed a professional, doctoral, or medical degree ( $n_m = 43$ ,  $n_f = 21$ ). Both respondents' parents tended to be working full- or part-

time ( $n_m = 104$ ,  $n_f = 128$ ), although a considerable subset of their mothers chose not to work ( $n = 34$ ).

The public university sample was comprised of 79 males and 80 females. Almost all respondents were African-American ( $n = 146$ ) and current undergraduates. The sample was divided fairly evenly by class year with slightly more second- ( $n = 40$ ) and third-year students ( $n = 44$ ) than first- ( $n = 37$ ) and fourth-year ( $n = 34$ ). Reflecting the broad age range of the undergraduate population at this institution, several of the respondents were over 30 years of age. The vast majority, however, were between the ages of 18 and 25 ( $m = 20.8$ ). Over half of the respondents in this sample had parents who were either currently married ( $n = 44$ ) or had never been married ( $n = 52$ ). Excepting those with a parent who was widowed ( $n = 6$ ), the remainder had parents who were either separated ( $n = 22$ ) or divorced ( $n = 32$ ), and only 13 of these had one or both parents remarry. Respondents' mothers were slightly better educated than their fathers on average, though it was typical for both parents to either have a high school degree ( $n_m = 42$ ,  $n_f = 61$ ) or have completed some college coursework ( $n_m = 61$ ,  $n_f = 39$ ). Most respondents' mothers were employed full- or part-time ( $n = 130$ ); employment was less common among fathers ( $n = 100$ ), many of whom were unemployed, unable to work, incarcerated, or deceased ( $n = 46$ ).

### ***3.4 Multiple Imputation for Sentiment Data***

In order to avoid the analytical biases that can be caused by missing data, multiple imputation was performed on the sentiment data collected in our survey. The goal of multiple imputation is to handle missing data in a manner that allows for valid

statistical inference (Rubin 1996). Due to a glitch in data recording, 12 respondents were missing a substantial portion of their affective meaning data. These respondents were dropped prior to imputation, and are excluded from further analysis. The remaining 299 respondents had arbitrary (i.e., non-monotone) and random patterns of missingness. In other words, we can assume that missing responses were not contingent upon a respondent's answer to a previous question or the response they would have given to the question. They were missing because a respondent chose to skip the item, most likely because they were unclear of its meaning.

A full multiple imputation was run on the remaining affective meaning data using the MI impute chained command in Stata, which performs sequential imputation using chained equations. Since our affective meaning data were continuous but bounded, a truncated regression model was specified, with imputed values bounded in the same manner as the original variable (minimum of -4.3, maximum of 4.3). Missing data were imputed using the available ratings on the same dimension. In other words, missing evaluation ratings were imputed using the available evaluation data, potency ratings using potency data, and activity ratings using activity data.

Five datasets were imputed for each dimension from the original affective meaning data, which included 299 respondents and 201 variables (evaluation, potency, and activity ratings of 67 identities). Output data were averaged across the five imputations for each affective dimension, and the data were merged into a single file to create our final imputed dataset. The distributions and descriptive statistics of the

output variables were comparable to those found in the original dataset (see Appendix G for illustrative histograms).

## 4. Predictors of Enculturation

In this chapter, we will present a series of multiple regressions that assess five categories of variables as predictors of enculturation: demographics, social position, social connectedness, network composition, and experiences in close relationships. Following Heise (2010) and Wisecup (2011), we use two measures of enculturation as dependent variables in our analysis, which reflect respondents' *inculcation* into the dominant culture and *commonality* with the affective meanings of others (see 4.2 for a detailed explanation of these concepts). An overview of the predictor and outcome variables included in the present analysis is provided below. Afterward, we present descriptive statistics for each measure of enculturation and discuss the results of our multiple regression analyses. More information about the construction of particular survey measures is available in Chapter 3.

### 4.1 Predictor Variables

The multiple regression analyses presented below explore five sets of variables as predictors of respondents' cultural inculcation and commonality: demographics, social position, social connectedness, network composition, and experiences in close relationships. First, we examine respondent *demographics* as predictors of enculturation, focusing on three key variables: race, gender, and age. Heise's (2010, Table 6.3) findings provide initial evidence that inculcation and commonality may be higher among females than males, and among Caucasian than Asian or African-American respondents. While he does not find a significant effect of age, older respondents tended to have lower commonality than younger ones in judgments on all three dimensions.



Wisecup's (2011) results similarly identify higher levels of inculcation and commonality among females than males for judgments of evaluation and potency, though finding higher levels among males than females for judgments of activity. With regard to race, Wisecup (2011) replicates Heise (2010) in finding the lowest levels of inculcation and commonality among African-American respondents for judgments of evaluation; however, Wisecup (2011) finds enculturation to be lowest among Caucasian respondents for judgments of potency and activity. Older respondents had the lowest levels of enculturation across dimensions, with the exception of inculcation in judgments of potency. The present research includes these three socio-demographic measures in hopes of adjudicating between the partially discrepant findings of this earlier research.

Our second set of analyses relates to respondents' *social position*. With college-aged samples, measures of parental socioeconomic status tend to provide a more accurate assessment of respondents' social position than do direct measures of the respondents' socioeconomics. We therefore indexed social position using eight measures: parents' marital status, mothers' highest level of education, fathers' highest level of education, mothers' employment status, fathers' employment status, and parents' ownership of a first home, second home, and business.

Heise (2010) found some evidence to suggest that married individuals had lower levels of inculcation and commonality in judgments of activity. Wisecup's (2011) findings primarily speak to the significance of education and income as predictors of enculturation. Specifically, the overall lowest levels of inculcation and commonality were found among respondents with only a high school education; the highest levels

were generally found among respondents with a college education. High income respondents had the lowest levels of inculcation on all three dimensions, and the lowest levels of commonality in judgments of potency, leading Wisecup (2011: 132) to suggest that “occupying positions of power [may attenuate] individuals’ perception of the power structure.” However, the highest levels of commonality were found among high income respondents for judgments of evaluation and activity. The present research builds upon these earlier explorations of social position, considering the role of parental marital status, employment, education, and home and business ownership in predicting enculturation.

Third, we explored aspects of respondents’ *social connectedness* as predictors of enculturation. Two separate measures of connectedness were examined, with separate models run for each. As described in Chapter 3, the first was a traditional position generator (adapted from DiPrete et al. 2011), which measured respondents’ ties to occupational categories with varying amounts of social prestige. The second was a university-specific position generator (adapted from Bryant et al. 2007), which measured respondents’ ties to social categories with varying amounts of prestige within the university context. As occupational position generators have been inconsistent predictors of social capital among college students, we expected that the university-specific position generator would be more predictive of variation in sentiment.

We sought to distinguish the roles of six predictor variables derived from each position generator: the prestige of the highest position accessed, the total number of weak (i.e., acquaintance) and strong (i.e., close) ties to this position, the number of

distinct positions accessed, and the total number of weak and strong social ties across positions. Wisecup's (2011) research provided initial evidence for several effects of social connectedness, though her findings rarely reached the threshold for significance. For instance, commonality was lower among respondents with ties to a larger number of distinct social positions. In addition, lower inculcation and commonality were found in judgments of potency among respondents who accessed higher prestige social positions. The present research expands upon Wisecup's work, including estimates of the number of ties per position accessed and distinguishing strong ties from weak ties.

Our fourth set of analyses pertained to respondents' *network composition*, which was assessed using four self-report measures. The first three measures asked respondents to report the proportion of their college friends that share their race, class year, and academic major, assessing respondents' level of homophily or similarity with their friends. The fourth measure asked respondents to indicate their membership in various types of campus groups and organizations. We calculated the total number of group memberships as a reflection of respondents' level of campus involvement. Organizational memberships were previously assessed by Heise (2010), who found higher levels of inculcation and commonality among respondents with more group memberships.

Fifth, Thomas and Heise (1995) hypothesized that distressing *experiences in close relationships*, such as punitive parenting and romantic estrangement, are potential predictors of variation in patterns of identity sentiment. The final set of analyses tests this hypothesis using five relevant predictor variables: measures of positive parenting,

punitive parenting, and ineffective child management from the Parent-Child Interaction Scale, and measures of rejection anxiety and intimacy avoidance from the Experiences in Close Relationships Scale. These variables were not previously assessed by either Heise (2010) or Wisecup (2011).

## **4.2 Outcome Variables**

As mentioned above, the analyses presented in this chapter examine the predictors of two statistical indices of enculturation, developed by Heise (2010): cultural inculcation (i.e., affective normativity) and commonality (i.e., response reliability). The *inculcation index* is obtained by regressing each respondent's ratings on the mean ratings of all other respondents in the sample (public and private universities combined). Each respondent's rating is related "to the mean rating computed without that respondent's rating in order to eliminate artifactual inflation of the covariance" (Heise 2010: 150), and regressions are performed separately for evaluation, potency, and activity. As mean sentiments are taken to reflect cultural norms about the meanings of a particular identity, the resulting regression coefficients reflect each respondent's level of cultural inculcation—the extent to which their sentiments reflect cultural norms. Inculcation indices between zero and one, therefore, suggest that a respondent's sentiments "reflect cultural norms, but with some degree of attenuation" (Heise 2010: 103). Inculcation indices less than zero suggest that a respondent "expresses sentiments that are systematically opposed to cultural norms," while indices greater than one suggest that their sentiments "exaggerate cultural norms" (Heise 2010: 103).

The *commonality index* is obtained by computing the correlation between each respondent's ratings and the mean ratings of all other respondents in the sample (Heise 2010). The resulting correlation coefficients reflect each respondent's level of affective commonality — the extent to which their sentiments are shared with others, or their “reliability in reporting norms” (Heise 2010: 147). Commonality indices can range from negative one to positive one. A positive commonality index indicates at least partial reproduction of cultural sentiments, with positive one indicating that a respondent perfectly reproduces these sentiments; negative commonality indicates the respondent's degree of opposition to cultural sentiments, with an index of negative one reflecting complete opposition (Heise 2010).

According to Heise (2010: 146), “inculcation is the functional equivalent of learning sentiments by diverse experiences in different settings... Intersubjectivity is one consequence [of mutual inculcation], in that individuals with similar sentiments are prone to understand events in similar ways.” Enculturation is, therefore, likely to be highest among individuals who are better educated about and more experienced with the normative culture, and who have fewer experiences with social conditions that deviate markedly from the norm (Heise 2010).

Heise (2010) cautions that comparisons of cultural inculcation and commonality across samples may be problematic given that the characterization of enculturation offered by these indices is contingent upon the cultural norms of the set of respondents in the study sample. Thus, our comparisons in the following sections should be interpreted with attention to this limitation. Following Wisecup (2011), we present the

mean, standard deviation, and range for our sample alongside those of earlier samples to allow more thorough comparison and establish the quality of our respondents as cultural informants.

#### **4.2.1 Descriptive Statistics: Inculcation**

Comparable to Heise's Indiana sample (reported in Heise 2010) and Wisecup's Durham sample (2011), inculcation index means were close to one on all three affective dimensions (see Table 4.1). Thus, as in earlier studies, it seems that the sentiments of the respondents in our sample tend to reflect the cultural affective norms of the sample at large. Standard deviations in inculcation were not reported by Heise (2010). The standard deviations observed in the present research are comparable to those reported by Wisecup (2011), but smaller in magnitude for judgments on all three dimensions.

The observed range in respondents' inculcation values is also roughly comparable to that of earlier studies. Still, three important observations emerge from a comparison of differences between the minimum and maximum inculcation values found in each sample. First, respondents in our sample were less likely to exaggerate cultural norms than the Indiana sample, but more likely to do so than the Durham sample. While the maximum inculcation value is slightly lower on all three dimensions than the Indiana sample, it is slightly higher on all dimensions than the Durham sample. Second, respondents in our sample were somewhat more likely than those in previous samples to have sentiments that systematically oppose cultural norms on the evaluation and potency dimensions. The minimum inculcation value for our sample is lower than either of the earlier samples for judgments of evaluation; it is lower than the Durham

sample, but equivalent to the Indiana sample, for judgments of potency. Third, our respondents were somewhat less likely than those in previous studies to have sentiments that systematically oppose cultural norms on the activity dimension, with a minimum value closer to zero than either the Durham or Indiana sample.

**Table 4.1: Comparison of descriptive statistics for inculcation by sample.**

		Evaluation	Potency	Activity
Rogers (2013)	Mean	1.00	.99	1.00
	SD	.33	.36	.42
	Range	-.40 - 1.84	-.40 - 2.03	-.12 - 2.19
Wisecup (2011)	Mean	.99	.99	.98
	SD	.35	.45	.49
	Range	-.11 - 1.70	-.09 - 2.01	-.37 - 1.92
Heise (2010)	Mean	---	---	---
	SD	---	---	---
	Range	-.09 - 1.99	-.40 - 2.35	-.35 - 2.30

*Note.* Heise (2010: 265) reports the mean inculcation index as “close to 1.0” on all three dimensions; standard deviations were not reported.

Broadly speaking, however, the comparability of mean and range across samples reveals important consistencies in patterns of cultural inculcation. On average, study respondents, whether recruited from within a university or in the field, tend to center around perfect inculcation into the cultural norms of their sample. Variation in these indices indicates that many respondents in each sample hold sentiments that reflect attenuated cultural norms, with inculcation values falling between zero and one, while others’ sentiments exaggerate these norms (greater than one) or oppose them (less than zero). Among the respondents in our own sample, 46 to 48 percent had inculcation indices between zero and one on each of the three dimensions, and 51 to 53 percent had

indices above one. By contrast, only one percent had indices less than zero on each of the three dimensions.

#### **4.2.2 Descriptive Statistics: Commonality**

While roughly comparable to those found in Heise's Indiana sample (2010) and Wisecup's Durham sample (2011), the mean commonality index found in the present research was slightly higher than in earlier samples, particularly for the dimensions of potency and activity (see Table 4.2). Thus, as in earlier research, it seems that the sentiments of the respondents in our sample tend to adequately reflect the mean sentiments of all other respondents in the sample, reflecting the general reliability of the respondents in reporting affective meaning norms. Standard deviations for commonality were not reported by Heise (2010) or Wisecup (2011), but ranged between .17 and .20 in the present research.

While the observed range in respondents' commonality indices is also roughly comparable to that of earlier studies, three important observations emerge from a comparison of differences between the minimum and maximum commonality values found in each sample. First, respondents in the present sample were somewhat more likely to oppose cultural sentiments for judgments of evaluation and potency than were earlier samples. The minimum commonality values found in our sample for judgments on the dimensions of evaluation and potency were lower than those found in previous research. Second, respondents in the present research were equally likely to the Wisecup (2011) sample to reproduce cultural sentiments for judgments of evaluation, and were more likely than this sample to reproduce cultural sentiments for judgments of potency.



However, both of these samples had lower maximum values for commonality in judgments of evaluation and potency than did the Heise (2010) sample. Third, respondents in our sample were more likely to reproduce cultural sentiments for activity than respondents in either of the previous samples. Both the minimum and maximum commonality values for activity were notably higher than those found in earlier research.

**Table 4.2: Comparison of descriptive statistics for commonality by sample.**

		Evaluation	Potency	Activity
Rogers (2013)	Mean	.76	.62	.59
	SD	.17	.18	.20
	Range	-.26 - .95	-.17 - .91	-.05 - .87
Wisecup (2011)	Mean	.74	.60	.55
	SD	---	---	---
	Range	-.10 - .95	-.09 - .87	-.15 - .81
Heise (2010)	Mean	.75	.54	.54
	SD	---	---	---
	Range	-.09 - 1.00	-.12 - .92	-.24 - .58

*Note.* Standard deviations were not reported by Wisecup (2011) or Heise (2010).

Broadly speaking, the comparability of mean and range across samples reveals important consistencies in patterns of affective commonality. Whether recruited from within a university or in the field, respondents' cultural sentiments largely reproduce the sentiments of their sample, indicating the general reliability of sentiment measures. Variation in commonality indices suggests that the ratings of some respondents in each sample at least partially reproduce cultural sentiments, falling between zero and one, while other respondents' ratings reflect some degree of opposition to cultural

sentiments, falling below zero. In our own sample, the vast majority of respondents had commonality indices between zero and one, around 99 percent on all three dimensions.

### 4.2.3 Differences by University

The descriptive overview of inculcation and commonality values presented above demonstrates appreciable variation within these measures, alongside important consistencies in cultural inculcation and patterns of affective commonality across samples. It is important to note that clear differences in inculcation and commonality were found between the two university samples included in the present research. These differences were expected, as the public and private university samples were chosen for their anticipated socio-demographic and affective distinctiveness.

**Table 4.3: Comparison of descriptive statistics for inculcation and commonality by university sample in the present research.**

		Inculcation			Commonality		
		E	P	A	E	P	A
Elite Private University (N=151)	Mean	1.00	1.09	1.15	.82	.72	.72
	SD	.29	.31	.35	.12	.11	.11
	Range	.03 - 1.84	-.02 - 2.03	.27 - 2.19	.06 - .95	-.01 - .91	.21 - .87
Historically Black Public University (N=148)	Mean	1.00	.90	.84	.71	.52	.47
	SD	.37	.38	.42	.19	.18	.20
	Range	-.40 - 1.78	-.40 - 1.90	-.12 - 1.92	-.26 - .92	-.17 - .86	-.05 - .86

*Note.* Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

For the private university sample, the mean inculcation index was 1.00 for evaluation, 1.09 for potency, and 1.15 for activity. For the public university sample, mean inculcation was identical for judgments of evaluation, but lower on the other two dimensions: .90 for potency, and .84 for activity (see Table 4.3). The differences between

samples were highly significant ( $p < .001$ ) for judgments of potency and activity. In other words, the potency and activity ratings of respondents in the public university sample were less reflective of the overall cultural norms of the combined sample than were the potency and activity ratings of respondents in the private university sample. Incultation in judgments of evaluation did not differ between the two samples.

The mean commonality indices for the private university sample were .82 for evaluation, .72 for potency, and .72 for activity. In comparison, mean commonality for the public university sample was .71 for evaluation, .52 for potency, and .47 for activity. Differences between the samples were highly significant ( $p < .001$ ) on all three affective dimensions. Thus, respondents from the public university sample were less reliable than respondents from the private university sample in reproducing the affective meanings of the larger sample. For remaining analyses, we combine the two samples to maximize variation in the commonality and incultation indices, and seek to identify particular predictors of this variation based on the hypotheses forwarded above.

## **4.2 Results**

Separate multiple regression analyses were run for each set of predictors, for each measure of enculturation, and for the dimensions of evaluation, potency, and activity; thirty regressions were run in total. When possible, we compare the predictors we assess with those examined by Heise (2010) and Wisecup (2011). Each of the analyses presented below was run using the general linear model procedure in SAS. All reported significance values were based upon Type III sum of squares, and therefore reflect the unique contributions of a variable controlling for all other variables in the analysis.

## 4.2.1 Demographics

Two demographic variables significantly predicted respondents' level of enculturation: race and age (see Table 4.4). In comparison with Caucasian respondents, African-American respondents had significantly lower inculcation in judgments of potency ( $p < .001$ ) and activity ( $p < .001$ ), and lower commonality on all three dimensions (*evaluation*:  $p < .001$ , *potency*:  $p < .001$ , *activity*:  $p < .001$ ). A similar pattern was found for respondents in the 'Other' race category, who had significantly lower inculcation than Caucasian respondents on the potency dimension ( $p < .01$ ), and lower commonality on all three dimensions (*evaluation*:  $p < .001$ , *potency*:  $p < .001$ , *activity*:  $p < .001$ ).

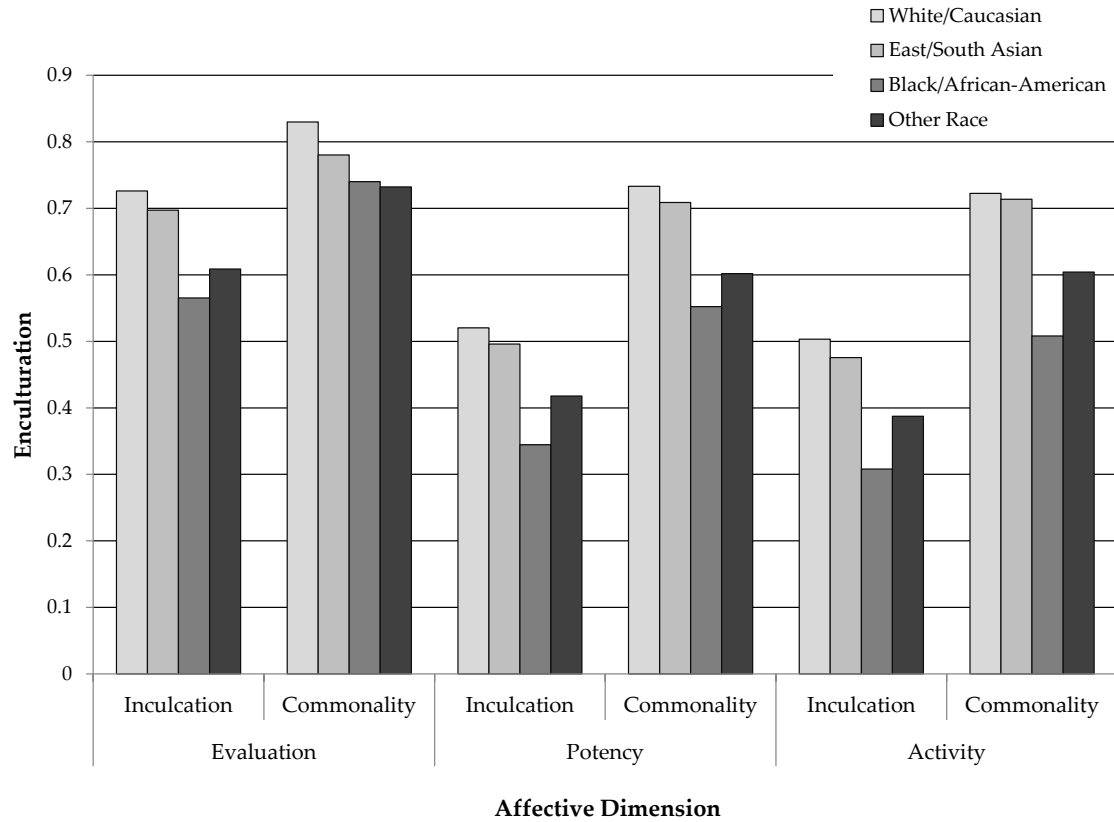
**Table 4.4: Regression analyses testing the effects of respondent demographics on inculcation and commonality by affective dimension (N=299).**

	Inculcation			Commonality		
	E	P	A	E	P	A
Black	.002 (.047)	-.175*** (.050)	-.236*** (.058)	-.086*** (.023)	-.181*** (.023)	-.216*** (.025)
Asian	-.097 (.071)	-.069 (.076)	-.007 (.088)	-.049 (.035)	-.027 (.036)	-.011 (.039)
Other	-.078 (.063)	-.191** (.068)	-.141 (.078)	-.107*** (.031)	-.158*** (.031)	-.144*** (.034)
Female	.029 (.039)	.022 (.041)	.019 (.048)	.105 (.019)	.004 (.019)	.016 (.021)
Age	.001 (.006)	-.013* (.007)	-.016* (.008)	.002 (.003)	-.001 (.003)	-.001 (.003)
R-square	.015	.056	.076	.060	.198	.229
Model F	.86	3.48**	4.85***	3.75**	14.51***	17.38***

*Note.* Standard errors are reported in parentheses below unstandardized estimates. Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

Age was a significant predictor of inculcation in judgments of potency ( $p < .05$ ) and activity ( $p < .05$ ), but did not predict inculcation in judgments of evaluation or commonality on any dimension. While demographic variables did not significantly predict inculcation in judgments of evaluation, model fit was strong for the other five models, with r-squared values ranging between .056 and .229.

An examination of mean trends by racial group indicates that Caucasian and Asian respondents generally have overall higher levels of inculcation and commonality than do African-American respondents and other racial groups. The one exception is for inculcation in judgments of activity, for which Caucasian and African-American respondents tend to have higher levels than do respondents with Asian or other racial background. Racial differences were significant for inculcation in judgments of potency and activity, and for commonality judgments on all three dimensions (see Figure 4.1). Thus, results suggest that the sentiments of certain racial groups are more reliable and better reflect the cultural norm than others, by the standards established in Heise (2010). These findings are largely consistent with Heise (2010), who found the highest levels of inculcation and commonality among Caucasian as compared with Asian and African-American respondents. However, they do not support Wisecup's (2011) finding that Caucasian respondents have the lowest levels of inculcation and commonality for judgments of potency and activity.



**Figure 4.1: Race as a predictor of cultural inculcation and commonality, presented separately by affective dimension.**

The ‘Other Race’ category presented above was comprised of several distinct groups, each of which reflected the racial identity of fewer than five percent of respondents: American Indian, Hawaiian or Alaskan native, non-native Black, multi-racial respondents with various patterns of racial identification, and respondents who identified as Hispanic but reported no other race. Because of the extremely small cell size of many racial categories, differences between these groups must be interpreted with caution. Nonetheless, we include them here for their potential utility in identifying more detailed patterns of racial variation in sentiment.

**Table 4.5: Means for cultural inculcation and commonality by race, presented separately by affective dimension.**

	Inculcation			Commonality		
	E	P	A	E	P	A
American Indian	1.06	.89	1.00	.86	.68	.70
White/Caucasian	1.02	1.11	1.13	.83	.73	.72
Multi-Racial (Incl. Caucasian)	1.04	1.13	1.31	.80	.69	.70
East/South Asian	.92	1.05	1.14	.78	.71	.71
Hispanic (No Other Race)	.95	1.01	1.05	.75	.64	.66
Black/African-American	1.02	.94	.90	.74	.55	.51
Hawaii/Alaska Native	1.00	.45	.80	.65	.28	.44
Non-Native Black	.91	.91	.64	.62	.49	.38
Multi-Racial (Not Caucasian)	.66	.71	.62	.59	.48	.41

*Note.* E = evaluation, P = potency, A = activity.

Among the respondents who identified with a single racial group in our ‘Other Race’ category, American Indian respondents ( $n = 2$ ) had the highest levels of inculcation and commonality, comparable to that of Caucasian respondents (see Table 4.5). The lowest levels of inculcation and commonality were found among those identifying as either non-native Black ( $n = 2$ ) or Hawaiian or Alaskan native ( $n = 2$ ). Among respondents who identified as Hispanic but reported no other race ( $n = 8$ ), mean inculcation and commonality were moderate, and comparable to Asian respondents.

Multi-racial respondents’ levels of mean difference varied depending on their patterns of racial identification. For instance, those who identified one of their races as Caucasian ( $n = 15$ ) showed levels of inculcation and commonality comparable to respondents who solely identified as Caucasian. In contrast, multi-racial respondents who did not identify as Caucasian ( $n = 7$ ) emerged as the least inculcated and reliable

group in judgments of evaluation, the least inculcated group in activity, and second lowest on all other measures of enculturation.

As mentioned above, results also indicated that age is a significant predictor of enculturation (see Table 4.4). Coefficients indicate a significant negative relationship between age and inculcation for judgments of potency and activity, suggesting that respondents 26 and older were less culturally inculcated than respondents aged 18 through 25 for judgments on these dimensions. While non-significant, the coefficients were in the same direction for commonality in judgments of potency and activity. In contrast, positive coefficients were found for age in our other two analyses, suggesting that older respondents were higher in inculcation and commonality than younger respondents for judgments of evaluation.

The age-related findings in our study may be partially explained by the constrained age range of our sample and the positive skew of its distribution. On the lower end, the age range was constrained by the fact that respondents were required to be at least 18 to participate in the study. As the sample was recruited within a university setting, more than 96 percent of respondents were between the ages of 18 and 25, meaning that young respondents overwhelmingly determined the cultural sentiment norms relative to which inculcation was measured. The remainder of the sample was older than the typical college age student, with a maximum age of 45, comprised primarily of students in our public university sample. Questions of sentiment change over the life course could be better explored with a sample more intentionally selected for variation in age.



Any comparison of these age effects with the age effects found in earlier work should be interpreted with caution given the differences in age range for each study. However, our pattern of results largely matches the findings of earlier research, with some discrepancies. Both Heise (2010) and Wisecup (2011) found that older respondents had lower levels of commonality in judgments on all three dimensions, but that age effects for inculcation were not consistent across dimensions. Our research found older respondents to have lower levels of inculcation and commonality in judgments of potency and activity, but found that the pattern was reversed for enculturation in judgments of evaluation.

Gender was not a significant predictor of enculturation in our analysis (see Table 4.4). Mean levels of inculcation and commonality were almost identical for male and female respondents across dimensions of evaluation, potency, and activity, suggesting comparable levels of reliability and cultural normativity in sentiment by gender. However, the small positive coefficient for gender across models indicates slightly higher levels of inculcation and commonality among female as compared to male respondents. Heise (2010) similarly found higher levels of inculcation and commonality among female respondents on all three dimensions, though gender differences were significant in his research. Wisecup (2011) also found somewhat higher levels of inculcation and commonality among females for judgments of evaluation and potency, although these differences were non-significant.

Gender is the only respondent characteristic upon which the affect control theory impression formation equations have been differentiated. For most studies in this

tradition, gender is also the only demographic characteristic for which cell size is large enough to examine variation by group. While the present research and Wisecup's (2011) field study have suggested that inculcation and commonality do not vary significantly by gender, Heise's (2010) research does identify significant gender differences, and all three studies find some evidence that female respondents may be more normative and reliable in reporting sentiment than males. Future research should consider the implications of these findings, as they may raise questions about the equivalence of reliability and normativity in the sentiment ratings used to populate gender-differentiated equations, and in the estimates of impression formation that these equations produce.

#### **4.2.2 Social Position**

Four social position measures emerged as significant predictors of respondents' enculturation: parents' marital status, father's education, father's employment status, and parents' ownership of a second home (see Table 4.6). While all three models of commonality had significant model fit, with r-squared values between .107 and .202, model fit for inculcation only reached significance for judgments of activity ( $R^2=.086$ ).

First, respondents whose parents were never married had significantly lower inculcation in judgments of activity ( $p<.01$ ) and commonality in judgments on all three dimensions (*evaluation*:  $p<.01$ , *potency*:  $p<.001$ , *activity*:  $p<.001$ ) than those whose parents are married. The same pattern was found commonality among respondents with a deceased parent (*evaluation*:  $p<.01$ , *potency*:  $p<.01$ , *activity*:  $p<.01$ ). Mean trends were

consistent for respondents whose parents were divorced but not remarried, but did not reach significance, most likely due to small cell size ( $n = 9$ ).

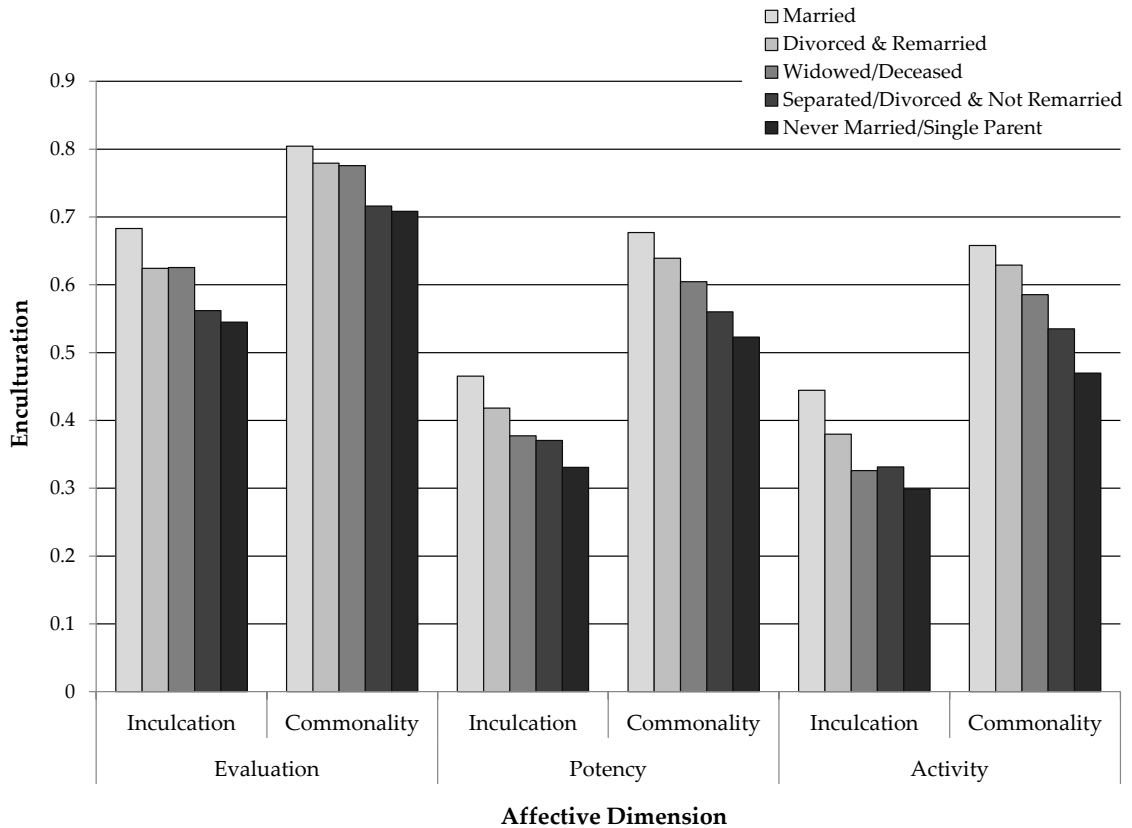
**Table 4.6: Regression analyses testing the effects of social position on inculcation and commonality by affective dimension (N=291).**

	Inculcation			Commonality		
	E	P	A	E	P	A
Divorced and Remarried	-.006 (.067)	-.002 (.072)	.055 (.083)	-.014 (.033)	-.012 (.034)	.002 (.037)
Widowed/Deceased	-.097 (.059)	-.104 (.063)	-.115 (.072)	-.088** (.029)	-.078** (.030)	-.089** (.033)
Never Married	-.062 (.058)	-.112 (.062)	-.196** (.071)	-.092** (.028)	-.114*** (.030)	-.146*** (.032)
Divorced, Not Remarried	-.020 (.120)	-.087 (.129)	.013 (.147)	-.012 (.058)	-.054 (.061)	-.045 (.067)
Mother's Education	-.009 (.022)	.008 (.024)	.037 (.027)	-.002 (.011)	-.003 (.011)	.017 (.012)
Father's Education	-.014 (.022)	.031 (.024)	.035 (.027)	.008 (.011)	.037** (.011)	.033** (.012)
Mother Full-Time Job	.004 (.047)	-.007 (.051)	.029 (.058)	-.0001 (.023)	-.001 (.024)	.013 (.026)
Mother Part-Time Job	-.039 (.067)	-.061 (.073)	.023 (.083)	.005 (.033)	-.014 (.034)	.041 (.037)
Father Full-Time Job	.005 (.052)	-.068 (.056)	-.035 (.064)	.023 (.025)	.012 (.026)	.016 (.029)
Father Part-Time Job	.007 (.098)	-.087 (.105)	-.039 (.120)	.103* (.048)	.051 (.050)	.065 (.054)
Home Ownership	-.010 (.056)	.074 (.060)	-.028 (.069)	-.022 (.027)	-.0004 (.029)	-.034 (.031)
Second Home Ownership	-.042 (.049)	-.069 (.052)	.018 (.060)	-.043 (.024)	-.062* (.025)	-.020 (.027)
Business Ownership	-.011 (.045)	-.028 (.049)	-.023 (.055)	-.018 (.022)	-.016 (.023)	-.023 (.025)
R-square	.022	.060	.086	.107	.176	.202
Model F	.47	1.37	2.00*	2.55**	4.56***	5.40***

*Note.* Standard errors are reported in parentheses below unstandardized estimates. Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

An examination of means revealed that respondents with married parents had the overall highest levels of commonality (see Figure 4.2). Commonality was lower for respondents whose parents are divorced and remarried, followed by respondents with a deceased parent, and those whose parents are separated or divorced and not remarried. Respondents raised by a single parent or parents who were never married had the lowest levels of commonality. Thus, the highest levels of reliability were found among respondents with married (or remarried) parents, and lower levels found among those with single (or divorced) parents. A fairly linear depreciation in inculcation was found across these categories.

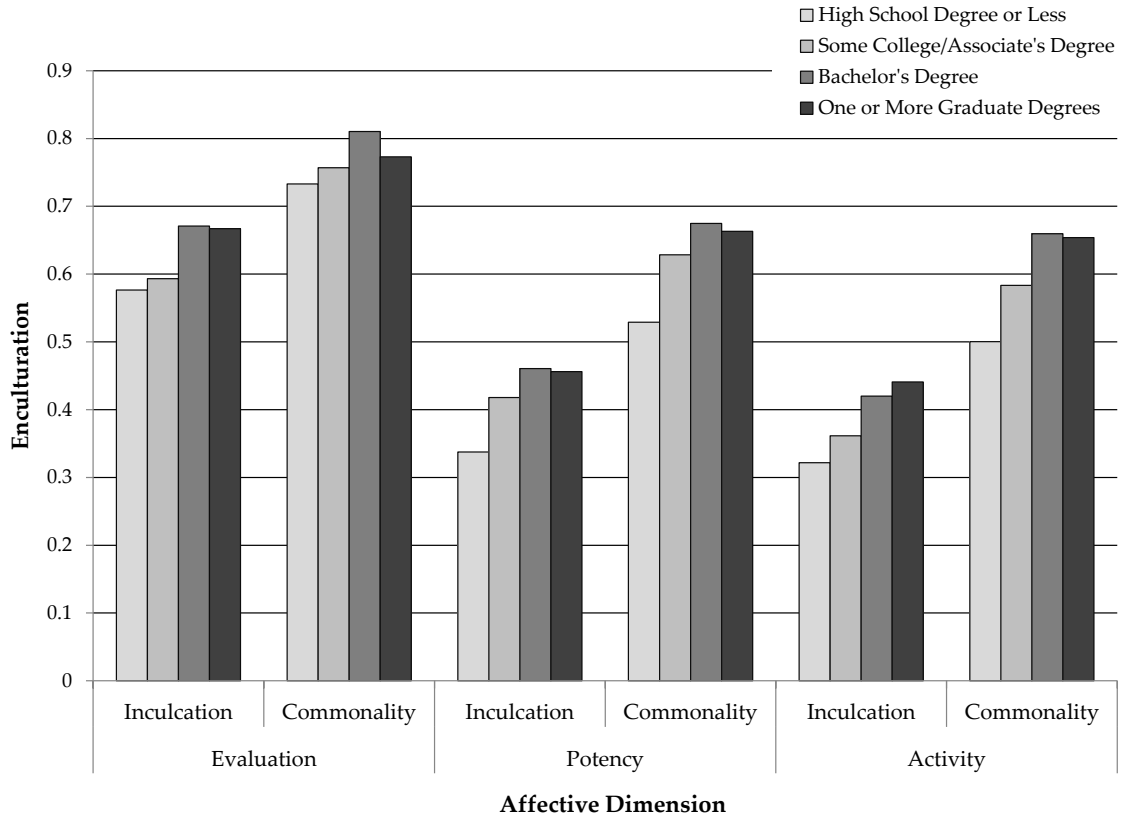
Similarly, inculcation for judgments of evaluation and potency was highest among respondents whose parents are either married or divorced and remarried. Inculcation was lower on these dimensions for respondents with a deceased parent, and for those whose parents are separated or divorced and not remarried. Inculcation for judgments of activity was slightly lower among respondents whose parents are married than among respondents whose parents are divorced and remarried, deceased, or never married. This follows Heise's (2010) finding that married respondents have lower levels of enculturation in judgments of activity. On all three dimensions, the lowest levels of inculcation were found among respondents whose parents are separated or divorced and not remarried, reflecting the lowest levels of average affective normativity, but also the smallest cell size for parental marital status.



**Figure 4.2: Marital status as a predictor of cultural inculcation and commonality, presented separately by affective dimension.**

Second, father's highest level of education was a significant, positive predictor of commonality in judgments of potency ( $p < .01$ ) and activity ( $p < .01$ ); mean trends were comparable but non-significant for inculcation, and for commonality in judgments of evaluation. Respondents with more educated fathers had higher levels of inculcation and commonality than respondents with less educated fathers. An examination of means indicates an incremental rise in both inculcation and commonality with each increase in paternal education through the completion of a four-year college degree (see Figure 4.3). Interestingly, we observe a slight decline in enculturation at the highest levels of education (i.e., fathers with one or more graduate degrees) for all dimensions.

This converges with Wisecup's (2011) finding that inculcation and commonality are consistently lowest among high school educated respondents but, in most cases, higher among college educated respondents than those who received advanced degrees.



**Figure 4.3: Father's highest level of education as a predictor of cultural inculcation and commonality, presented separately by affective dimension.**

Third, respondents whose fathers are not employed have the lowest levels of commonality on all three affective dimensions (see Table 4.7). The highest levels of commonality are found among respondents whose fathers are employed part-time, followed by respondents whose fathers are employed full-time, more than 30 hours per week. In other words, the most reliable respondents have fathers who are employed full- or part-time. Respondents whose fathers are employed part-time have significantly

higher commonality in judgments of evaluation than those whose fathers are not employed ( $p < .05$ ).

Respondents whose fathers are employed full-time have the closest mean inculcation to one across dimensions, suggesting that they best reproduce cultural affective norms. Respondents with fathers employed part time tend to exaggerate judgments of evaluation, and are least likely to accurately reproduce cultural sentiments for potency and activity. Indeed, respondents whose fathers are employed part-time have significantly higher inculcation in judgments of potency than those whose fathers are not employed ( $p < .05$ ). Respondents whose fathers are unemployed mostly reproduce cultural affective norms on all three dimensions.

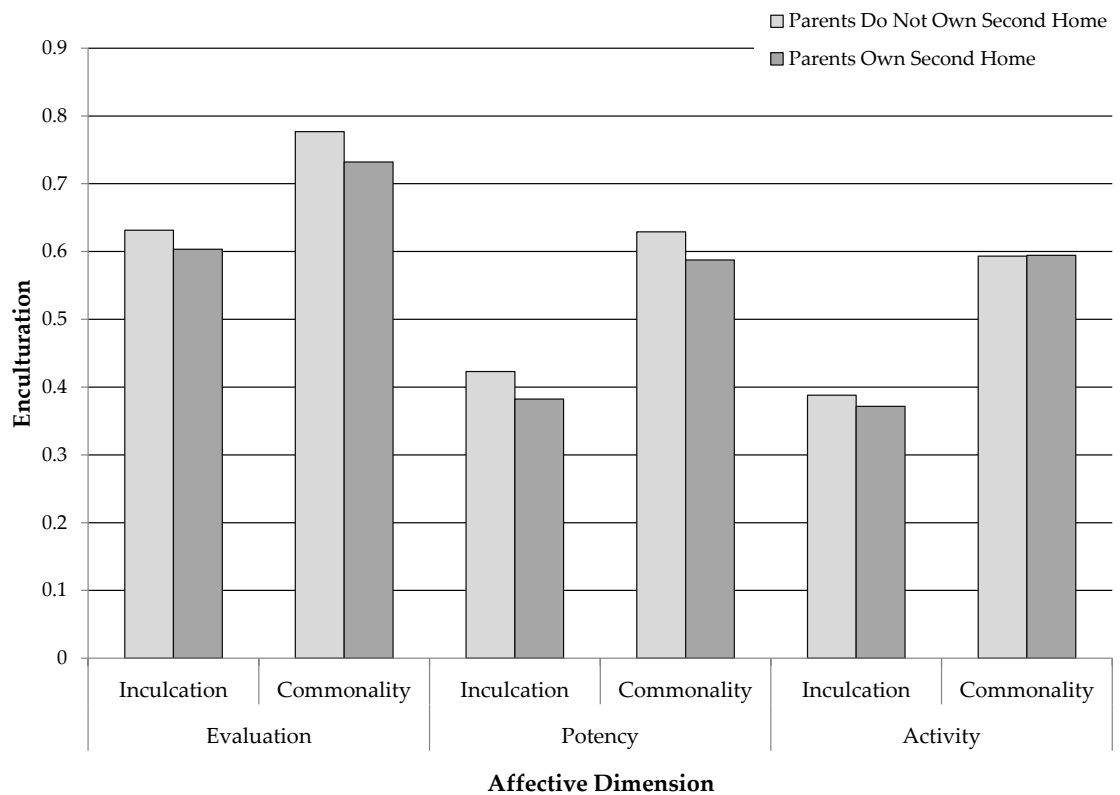
**Table 4.7: Means for cultural inculcation and commonality by father’s employment status, presented separately by affective dimension.**

	Inculcation			Commonality		
	E	P	A	E	P	A
Full-Time (> 30 Hours/Week)	.99	.99	1.00	.77	.63	.61
Part-Time (< 30 Hours/Week)	1.05	.93	.97	.84	.65	.65
Not Employed	.99	.98	.98	.73	.57	.54

*Note.* E = evaluation, P = potency, A = activity.

Fourth, parents’ ownership of a second home was a significant negative predictor of commonality ( $p < .05$ ) in judgments of potency. Suggesting culturally divergent patterns of sentiment among the wealthy, respondents with at least one parent that owns a second home have significantly lower levels of commonality in judgments of evaluation and potency (see Figure 4.4). An examination of means reveals that this descriptive trend holds for inculcation and commonality in judgments of evaluation, although non-significant. While inculcation and commonality in judgments of activity

do not differ significantly based on parents' ownership of a second home, inculcation in activity is higher among respondents whose parents own a second home. Results largely fit with Wisecup's (2011) finding that commonality in judgments of potency and inculcation in judgments on all three dimensions are lowest among the highest income respondents, although the significant effects were confined to the potency dimension in the present research.



**Figure 4.4: Parents' ownership of a second home as a predictor of cultural inculcation and commonality, presented separately by affective dimension.**

The remaining variables were not significant predictors of enculturation in any analysis of social position. Nonetheless, descriptive trends for these variables reveal some patterns worthy of consideration. Mother's highest level of education predicts



commonality following the same pattern identified for father’s education (see Table 4.8), in line with the findings of Wisecup (2011). For judgments on all three affective dimensions, commonality increases with mother’s level of education through college, with a slight decrease for mothers with at least one graduate degree. In contrast, inculcation in judgments of potency and activity increase steadily with mother’s level of education, while inculcation in judgments of evaluation is higher for respondents whose mothers have lower levels of education.

**Table 4.8: Means for cultural inculcation and commonality by mother’s highest level of education, presented separately by affective dimension.**

	Inculcation			Commonality		
	E	P	A	E	P	A
High School Degree or Less	1.02	.93	.91	.75	.58	.53
Some College/Associate's Degree	1.02	.98	.92	.75	.59	.54
Bachelor's Degree	.97	1.01	1.04	.79	.66	.65
One or More Graduate Degrees	.99	1.03	1.10	.77	.63	.64

*Note.* E = evaluation, P = potency, A = activity.

The effects of maternal employment follow a different pattern than paternal employment: the lowest levels of commonality are found among respondents whose mothers are employed full-time (see Table 4.9). Respondents whose mothers are employed part-time generally have the highest levels of commonality, followed by respondents whose mothers are not employed. Thus, an examination of means suggests that families diverging from the traditional U.S. family structure, wherein fathers are the primary financial contributor to the household, tend to socialize their children into affective meanings that are less reliable predictors of others’ meanings. As with paternal employment, respondents with mothers who are employed full-time or unemployed

tend to have fairly normative sentiment on all three affective dimensions. Respondents whose mothers are employed part-time, tend to less accurately reproduce affective norms for evaluation and potency.

**Table 4.9: Means for cultural inculcation and commonality by mother’s employment status, presented separately by affective dimension.**

	Inculcation			Commonality		
	E	P	A	E	P	A
Full Time (> 30 Hours/Week)	1.01	.99	1.00	.76	.61	.58
Part Time (< 30 Hours/Week)	.97	.95	1.01	.79	.63	.64
Not Employed	.99	1.01	.99	.77	.64	.60

*Note.* E = evaluation, P = potency, A = activity.

Respondents whose parents own a home or business show slightly higher reliability and affective normativity in judgments of potency and activity than respondents whose parents do not own a home (see Table 4.10). In contrast, respondents whose parents own a business have slightly lower levels of inculcation and commonality in judgments of evaluation and potency.

**Table 4.10: Means for cultural inculcation and commonality by parents’ home and business ownership, presented separately by affective dimension.**

	Inculcation			Commonality		
	E	P	A	E	P	A
Parents Do Not Own a Home	1.02	.93	.96	.77	.59	.57
Parents Own a Home	.99	1.01	1.01	.77	.63	.60
Parents Do Not Own a Business	1.01	1.00	.99	.77	.62	.59
Parents Own a Business	.97	.97	1.00	.75	.61	.59

*Note.* E = evaluation, P = potency, A = activity.

Taken as a whole, findings suggest that respondents with parents who are married, college-educated, and who own a first (but not second) home, have sentiments that are more reliable predictors of others’ and better reflect the prevailing cultural

norm. Inculcation and commonality are lower for respondents with divorced or single parents, or parents who are unemployed or have little education. Commonality in judgments of evaluation is most strongly predicted by parents' marital status and father's employment status, while parents' marital status and fathers' education predict enculturation in potency and activity. Parents' ownership of a second home primarily determines respondents' enculturation in judgments of potency.

Interestingly, analyses also indicate that high levels of social and economic capital can produce a slight drop in enculturation. Respondents with parents who receive graduate education or who have higher than average levels of wealth (e.g., as denoted by ownership of a second home) have somewhat lower levels of enculturation, most notably in judgments of potency, than do respondents with college educated parents, or parents who do not own a second home. One possible explanation for this finding is that families bearing an especially high social position instill unique views about some identities, producing domains of sentiments that are distinct from the prevailing cultural norm.

### **4.2.3 Social Connectedness**

Several key variables from the university position generator were significant predictors of enculturation (see Table 4.11). While none of the position generator variables were significant predictors of inculcation in evaluation judgments, all other analyses had significant model fit, with r-squared values ranging between .045 and .094. First, the total number of ties to the highest prestige position accessed is negatively associated with inculcation for judgments of potency ( $p < .005$ ) and activity ( $p < .001$ ), and

with commonality in judgments on all three affective dimensions (*evaluation*:  $p=.01$ , *potency*:  $p<.001$ , *activity*:  $p<.001$ ). The number of close ties to the highest position accessed was positively related to commonality ( $p<.05$ ), but only for judgments of activity.

**Table 4.11: Regression analyses testing the effects of social connectedness within the university on inculcation and commonality by affective dimension (N=299).**

	Inculcation			Commonality		
	E	P	A	E	P	A
Prestige of Highest Position	.0002 (.001)	.00003 (.001)	.0003 (.002)	.001 (.001)	.001 (.001)	.001 (.001)
Ties to Highest Position	-.0003 (.001)	-.004** (.001)	-.006*** (.002)	-.002* (.001)	-.003*** (.001)	-.004*** (.001)
Close Ties to Highest Position	-.004 (.012)	-.002 (.013)	.016 (.015)	.008 (.006)	.007 (.007)	.016* (.007)
Total Number of Positions	-.002 (.013)	-.009 (.014)	.009 (.016)	.003 (.006)	-.001 (.007)	.009 (.007)
Total Number of Social Ties	.001 (.001)	.004** (.001)	.005** (.002)	.002* (.001)	.003*** (.001)	.003*** (.001)
Total Number of Close Ties	.001 (.004)	-.007 (.005)	-.014** (.005)	-.005* (.002)	-.008*** (.002)	-.011*** (.002)
R-square	.019	.044	.050	.045	.089	.094
Model F	.96	2.25*	2.54*	2.30*	4.75***	5.06***

*Note.* Standard errors are reported in parentheses below unstandardized estimates. Significant differences are noted as follows: †  $p<.06$ , \*  $p<.05$ , \*\*  $p<.01$ , \*\*\*  $p<.001$ . Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

In addition, the total number of social ties reported across positions was a significant, positive predictor of inculcation in potency ( $p=.005$ ) and activity ( $p=.001$ ), and for commonality across all dimensions (*evaluation*:  $p<.02$ , *potency*:  $p<.001$ , *activity*:  $p<.001$ ). This result suggests that respondents with more social ties have sentiments that are more representative of cultural norms and more reliable predictors of others' sentiments. However, our last finding conditions this premise on the strength of the

social ties; the total number of close ties across positions was a significant negative predictor of commonality (*evaluation*:  $p=.01$ , *potency*:  $p<.001$ , *activity*:  $p<.001$ ), and of inculcation in judgments of activity ( $p<.01$ ). Mean trends were comparable but non-significant for inculcation in judgments of potency. Thus, respondents' inculcation and commonality tend to increase with a general abundance of ties, but are reduced with an abundance of strong ties.

Analyses using the occupational position generator had poorer model fit than those using the university-specific measure, with r-squared values ranging between .023 and .08 (see Table 4.12). The relative weakness of this measure was anticipated, as past research has suggested that occupational position generators are not a strong measure of variation in social capital among college-age respondents. Nonetheless, model fit was adequate for all models except inculcation for judgments of evaluation. Analyses using this measure identify several significant predictors of enculturation, some of which follow distinct patterns from those identified for the university-specific measure.

First, the prestige of the highest position accessed was a significant positive predictor of commonality on all three dimensions (*evaluation*:  $p<.002$ , *potency*:  $p=.002$ , *activity*:  $p=.002$ ). Mean effects for inculcation followed the same pattern but did not reach significance. The number of ties to the highest position accessed also had a significant positive association with inculcation (*potency*:  $p<.05$ , *activity*:  $p<.05$ ) and commonality (*potency*:  $p<.01$ , *activity*:  $p<.05$ ) in judgments of potency and activity. In contrast, the number of close ties to the highest position accessed had a negative relationship with inculcation (*potency*:  $p<.01$ , *activity*:  $p<.05$ ) and commonality (*potency*:  $p<.01$ , *activity*:

p<.05) in judgments of potency and activity. Mean effects for evaluation followed the same pattern, but were not significant. Thus, accessing a higher position and having more ties to that position were associated with greater normativity and reliability in sentiment, although these effects were curbed for respondents with an abundance of close ties to the highest prestige position.

**Table 4.12: Regression analyses testing the effects of occupational connectedness on inculcation and commonality by affective dimension (N=299).**

	Inculcation			Commonality		
	E	P	A	E	P	A
Prestige of Highest Position	.002 (.001)	.002 (.001)	.002 (.001)	.002** (.0005)	.002** (.001)	.002** (.001)
Ties to Highest Position	.005 (.007)	.019* (.008)	.019* (.009)	.003 (.004)	.011** (.004)	.010* (.004)
Close Ties to Highest Position	-.010 (.014)	-.043** (.015)	-.039* (.017)	-.007 (.007)	-.024** (.007)	-.021* (.008)
Total Number of Positions	-.003 (.010)	-.013 (.010)	-.006 (.012)	-.008 (.005)	-.012* (.005)	-.009 (.006)
Total Number of Social Ties	-.00001 (.001)	.0004 (.001)	.002 (.001)	-.0001 (.0005)	.0001 (.0005)	.0004 (.001)
Total Number of Close Ties	-.001 (.001)	.0002 (.001)	-.001 (.001)	.0001 (.001)	.0001 (.001)	-.0001 (.001)
R-square	.023	.046	.045	.045	.080	.067
Model F	1.12	2.36*	2.28*	2.27*	4.25***	3.55**

*Note.* Standard errors are reported in parentheses below unstandardized estimates. Significant differences are noted as follows: † p<.06, \* p<.05, \*\* p<.01, \*\*\* p<.001. Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

In contrast with the university position generator, neither the number of social ties across positions nor the total number of close ties was a significant predictor of enculturation using the occupational measure. However, the total number of social positions accessed was negatively associated with respondents' commonality in

judgments of potency ( $p < .02$ ). Mean effects for other analyses followed the same pattern, but were not significant. This finding suggests that respondents' sentiments were less reliable predictors of others' sentiments and less representative of cultural norms when they had ties to a larger number of distinct social positions.

In sum, the relationship between social connectedness and enculturation seems to be conditioned by both the size and composition of respondents' social networks. Analyses of the university position generator indicated that higher levels of enculturation are found among respondents with a larger number of social ties and those with access to high prestige social positions. In contrast, enculturation was lower for respondents with an abundance of ties to high prestige social positions, and for those with many strong social ties. Analyses of the occupational position generator also found higher enculturation among respondents with access to high prestige positions, but suggested that commonality was enhanced with a general abundance of ties to these positions and reduced with an abundance of strong ties. In contrast with the university position generator, results did not identify a significant effect of the total number of strong or overall social ties on enculturation. However, enculturation was lower for respondents who accessed a large number of distinct social positions.

The findings of the present research stand in partial contrast to Wisecup's (2011) results. While few network effects reached significance, Wisecup's research identified: (1) a negative relationship between respondents' total number of prestige-diverse ties and both their inculcation in evaluation judgments and their commonality in judgments on all three affective dimensions, (2) a negative relationship between the maximum

prestige of respondents' social ties and both their inculcation in judgments of potency and activity and their commonality in judgments of potency, and (3) a positive relationship between the prestige diversity of respondents' social ties and both their inculcation in activity judgments and their commonality in judgments on all three affective dimensions. Coefficients for the remaining analyses were either inconsistent with these effects, or identified no relationship between the variables.

#### **4.2.4 Network Composition**

Results identify several aspects of network composition that predict respondents' level of enculturation (see Table 4.13). While network composition variables did not significantly predict inculcation in judgments of evaluation, model fit was adequate for all other models, with r-squared values between .038 and .102. Respondents' racial similarity with their friends is negatively associated with commonality in judgments of activity ( $p < .005$ ). Mean trends for commonality in judgments of evaluation and potency are comparable but non-significant. Similarly, respondents' similarity with their friends in academic major is negatively associated with inculcation (*potency*:  $p < .05$ , *activity*:  $p < .001$ ) and commonality (*potency*:  $p < .05$ , *activity*:  $p = .001$ ) in judgments of potency and activity. Mean effects for evaluation followed the same pattern, but were not significant. Thus, when a larger proportion of a respondent's friends share their race, their judgments of activity are less reliable than when their friend groups are racially diverse. When a larger proportion of a respondent's friends share their major, their judgments of potency and activity are less reflective of cultural norms and less reliable predictors of others' sentiments.



**Table 4.13: Regression analyses testing the effects of network composition on inculcation and commonality by affective dimension (N=299).**

	Inculcation			Commonality		
	E	P	A	E	P	A
Friends' Race	.019 (.017)	.008 (.018)	-.010 (.021)	-.004 (.008)	-.015 (.009)	-.029** (.010)
Friends' Class Year	.013 (.021)	.039 (.022)	.024 (.026)	.019 (.010)	.032** (.011)	.026* (.012)
Friends' Major	-.025 (.022)	-.055* (.023)	-.090*** (.027)	-.017 (.011)	-.024* (.011)	-.041** (.013)
Club Memberships	.006 (.014)	.028 (.015)	.038* (.018)	.016* (.007)	.026*** (.007)	.028*** (.008)
R-square	.011	.038	.052	.035	.079	.102
Model F	.81	2.88*	4.03**	2.65*	6.29***	8.33***

*Note.* Standard errors are reported in parentheses below unstandardized estimates. Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

Conversely, when a larger proportion of a respondent's friends share their class year, they have higher commonality in judgments of potency ( $p < .005$ ) and activity ( $p < .05$ ). Participation in campus organizations was also positively associated with inculcation in judgments of activity ( $p < .05$ ) and commonality in judgments on all three dimensions (*evaluation*:  $p < .05$ , *potency*:  $p < .001$ , *activity*:  $p < .001$ ). Mean trends for all other analyses followed the same pattern, but were not significant. Thus, when a larger proportion of a respondent's friends share their class year, their judgments of potency and activity are more reliable predictors of others' sentiments. Respondents who participate in a larger number of campus organizations have sentiments that are more reliable on all three affective dimensions and better reflect cultural norms for judgments of activity. Heise (2010) found that higher levels of organizational participation were

associated with higher inculcation on all three dimensions, and higher commonality in judgments of activity.

In sum, network composition plays an important role in distinguishing the significance of social ties. While a respondent's similarity with their friends in class year was associated with higher levels of commonality in potency and activity, similarity in race and academic major were associated with lower levels of inculcation and commonality on certain dimensions. Evaluation judgments were not significantly predicted by similarity variables, but were predicted by participation in campus organizations. Respondents participating in more types of clubs and organizations had higher levels of inculcation in activity and commonality on all three dimensions.

#### **4.2.5 Experiences in Close Relationships**

Thomas and Heise (1995) hypothesized that histories of problematic interaction with parents and romantic partners can have systematic influences on patterns of affective meaning. In support of this hypothesis, analyses identified two features of parental and romantic relationships as significant predictors of commonality: ineffective child management in parental relationships and intimacy avoidance in romantic relationships (see Table 4.14). Model fit was significant for models of commonality, with r-squared values ranging between .071 and .095, but did not reach significance for models of inculcation.

Ineffective child management, a subscale of the Parent-Child Interaction Scale, was a significant negative predictor of commonality on all three affective dimensions (*evaluation*:  $p < .01$ , *potency*:  $p = .001$ , *activity*:  $p < .01$ ). Respondents who were high in

ineffective child management have parents who often allowed them to break established rules or do things they weren't supposed to do and go without punishment. When ineffective child management is high, respondents' sentiments are less reliable predictors of others' sentiments. Mean effects for inculcation were consistent with this pattern but did not reach significance.

**Table 4.14: Regression analyses testing the effects of experiences in close relationships on inculcation and commonality by affective dimension (N=299).**

	Inculcation			Commonality		
	E	P	A	E	P	A
Positive Parenting	.006 (.006)	.002 (.007)	.002 (.008)	.003 (.003)	.002 (.003)	-.00004 (.004)
Punitive Parenting	-.009 (.005)	-.003 (.006)	-.004 (.007)	-.005 (.003)	-.001 (.003)	-.001 (.003)
Ineffective Child Management	-.003 (.007)	-.006 (.007)	-.006 (.009)	-.009** (.003)	-.012** (.004)	-.011** (.004)
Rejection Anxiety	-.0001 (.003)	.002 (.003)	.003 (.004)	.0005 (.002)	.001 (.002)	.002 (.002)
Intimacy Avoidance	-.006 (.003)	-.003 (.004)	-.006 (.004)	-.005** (.002)	-.005* (.002)	-.007*** (.002)
R-square	.037	.010	.015	.095	.071	.076
Model F	2.23†	.58	.88	6.15***	4.45***	4.85***

*Note.* Standard errors are reported in parentheses below unstandardized estimates. Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

Intimacy avoidance, a subscale of the Experiences in Close Relationships Scale, had a negative association with commonality in judgments on all three dimensions (*evaluation*:  $p < .001$ , *potency*:  $p < .005$ , *activity*:  $p = .01$ ). Respondents who were high in intimacy avoidance are less likely to discuss important matters or otherwise get emotionally close with their partner in romantic relationships. When intimacy avoidance

is high, respondents' sentiments were less reliable predictors of others' sentiments on all three dimensions. Mean effects for inculcation were consistent with this pattern, but non-significant.

#### **4.4 Summary and Conclusions**

The present chapter examined five categories of social variables as predictors of enculturation in cultural affective meaning. In our first set of analyses, race and age emerged as significant *socio-demographic* predictors of enculturation. Race was a highly significant predictor of inculcation for judgments of potency and activity, and of commonality for judgments on all three affective dimensions. In all cases except inculcation in judgments of activity, Caucasian and Asian respondents had higher mean levels of inculcation and commonality than African-American respondents and other racial groups. These findings are largely consistent with Heise (2010), who found the higher levels of inculcation and commonality among Caucasian than Asian and African-American respondents, but contrast with Wisecup's (2011) finding that Caucasian respondents have the lowest levels of inculcation and commonality of any racial group for judgments of potency and activity.

With regard to age, we found that respondents 26 and older were less culturally inculcated and less reliable than respondents aged 18 through 25 for judgments of potency and activity, but more inculcated and reliable in their judgments of evaluation. These findings partially matched the results of earlier research, which found lower levels of commonality among older respondents across dimensions, but did not identify consistent effects of inculcation across dimensions (Heise 2010, Wisecup 2011). In

contrast with the findings of earlier research, gender was not a significant predictor of enculturation in any of our socio-demographic models. However, coefficients revealed that females had slightly higher levels of inculcation and commonality than males for judgments on all three dimensions, in line with the findings of Heise (2010).

Our second set of analyses identified four *social position* variables – parents’ marital status, father’s highest level of education, father’s employment status, and parents’ ownership of a second home – as significant predictors of enculturation in affective meaning. Parents’ marital status predicted respondents’ level of inculcation for judgments of activity, and of commonality for judgments on all three affective dimensions. The lowest levels of inculcation were found among respondents whose parents are separated or divorced and not remarried, with higher levels of inculcation among respondents whose parents are either married or divorced and remarried. Similarly, the highest levels of reliability were found among respondents with married (or remarried) parents, and lower levels were found among those with single (or divorced) parents.

Father’s highest level of education was a significant, positive predictor of commonality in judgments of potency and activity. Respondents with more educated fathers generally had higher levels of inculcation and commonality than respondents with less educated fathers. Both inculcation and commonality increased with each increase in paternal education through the completion of a four-year college degree, with a slight decline in enculturation at the highest levels of education (i.e., fathers with one or more graduate degrees). Thus, our results follow Wisecup’s (2011) finding that

inculcation and commonality are consistently lowest among high school educated respondents, though often higher among college educated respondents than those who received advanced degrees. Father's employment status was also a significant predictor of commonality in judgments of evaluation, with significantly higher commonality among respondents whose fathers are employed part-time as compared to those whose fathers are not employed.

In addition, parents' ownership of a second home was a significant negative predictor of commonality in judgments of potency. Respondents with at least one parent that owns a second home had significantly lower levels of commonality in judgments of potency; though non-significant, this descriptive trend holds for inculcation in judgments on all three dimensions and commonality in judgments of evaluation. Suggesting culturally divergent patterns of sentiment among the wealthy, results converge with Wisecup's (2011) finding that commonality in judgments of potency and inculcation in judgments on all three dimensions were lowest among the highest income respondents.

Third, we analyzed *social connectedness* variables as predictors of enculturation using two position generator measures, one university-specific and one occupational, which questioned respondents about their ties to various social positions, measured the number of ties to each position accessed, and distinguished weak (i.e., acquaintance) from strong (i.e., close) ties. These analyses extended the work of Wisecup (2011), who was the first to identify social network effects on enculturation. Although her findings did not often reach significance, Wisecup's research was important in suggesting that

access to a prestige-diverse array of social positions can lead to greater enculturation, while enculturation can be curbed with an abundance of high-prestige ties.

Analyses of the university position generator found that respondents with a larger number of ties to the highest prestige position they accessed had significantly lower levels of inculcation in judgments of potency and activity, and lower levels of commonality in judgments on all three affective dimensions. In contrast, the number of close ties to the highest position accessed was positively related to commonality, though this effect was only significant for judgments of activity. In addition, respondents' total number of social ties was a significant, positive predictor of their inculcation in potency and activity, and their commonality on all three dimensions. However, the total number of close ties was a significant negative predictor of commonality on all three dimensions, and of inculcation in judgments of activity. In other words, respondents' inculcation and commonality generally increase with an overall abundance of ties, but are curbed with an abundance of strong ties.

Analyses of the occupational position generator found a significant positive relationship between the prestige of the highest position accessed and respondents' level of commonality on all three dimensions. The number of ties to the highest position accessed also had a significant positive association with inculcation and commonality in judgments of potency and activity, while the number of close ties to this position had a negative relationship with inculcation and commonality on these dimensions. Thus, as found in analyses of the university position generator, inculcation and commonality generally increase as respondents establish more overall ties, but this effect is curbed

with an abundance of strong ties. In contrast with the university position generator, neither the total number of social ties nor the total number of close ties was a significant predictor of enculturation using the occupational measure, but the total number of social positions accessed was negatively associated with respondents' commonality in judgments of potency.

In our fourth set of analyses, we explored the role of *network composition* and organizational memberships in predicting enculturation. Respondents' racial similarity with their friends was negatively associated with commonality in judgments on all three dimensions, but only reached significance for judgments of activity. Similarly, respondents' similarity with their friends in academic major was negatively associated with both inculcation and commonality across dimensions, though only reaching significance for judgments of potency and activity. In contrast, respondents' similarity with their friends in terms of class year was positively associated with their commonality in judgments on all three dimensions, reaching significance for judgments of potency and activity. In other words, similarity with one's friends in terms of race and academic major can hurt affective normativity and reliability, while similarity in class year seems to bolster reliability. In addition, participation in campus organizations was positively associated with both inculcation and commonality, reaching significance for inculcation in judgments of activity and commonality in judgments on all three dimensions. This result converges with Heise's (2010) finding that higher levels of organizational participation were associated with higher inculcation on all three dimensions, and higher commonality in judgments of activity.



Lastly, we examined respondents' *experiences in close relationships* as potential predictors of enculturation, based on Thomas and Heise's (1995) hypothesis that histories of problematic interaction with parents and romantic partners can have systematic influences on patterns of affective meaning. In support of this hypothesis, analyses identified ineffective child management in parental relationships and intimacy avoidance in romantic relationships as significant negative predictors of commonality. Commonality was lower on all three dimensions for respondents (1) whose parents often allowed them to break established rules or do things they weren't supposed to do without punishment, and (2) among those who are unlikely to discuss important matters or otherwise get emotionally close with their partner in romantic relationships. Mean trends were consistent but non-significant for inculcation.

In sum, the findings presented in this chapter suggest a baseline level of meaning consensus, but also identify a variety of social variables as significant predictors of enculturation. Affect control theorists understand cultural meanings as broadly consensual and operationalize them as mean ratings of social concepts. However, our results suggest that variation can be identified in these meanings, which seems to be meaningfully linked with features of respondents' social structural experience. Both inculcation into the dominant culture and commonality with the affective meanings of others depend, in part, upon elements of our socio-demographic background, social position, network composition, patterns of social connectedness, and experiences in close relationships.

## 5. Social Influence and Meaning Change

The network theory of social influence explores the manner in which consensus of opinion is reached within networks containing a distinct array of initial opinions and varying amounts of social influence and susceptibility to this influence (Friedkin 2005). Researchers in this tradition propose that norm formation occurs as members of a given network seek to cognitively integrate a set of disparate opinions, using a weighted average of influential opinions to reach consensus through the iterative revision of attitudes (Friedkin 2001). Flows of interpersonal influence within social networks shape network members' opinions on a variety of issues, and the network members who are most consistently deemed influential tend to play the largest role in determining normative consensus (Friedkin and Johnsen 1999). Past research on social influence networks has found that, above and beyond preexisting group norms, decision rules, and the persuasiveness of group members' arguments, how influential we perceive a social contact to be determines how strongly their opinion affects group consensus (Friedkin 1999). In other words, certain people weigh more heavily than others in determining normative consensus within social networks (Friedkin 1999, Friedkin and Johnsen 1999).

Friedkin and Johnsen (2003) have proposed the applicability of recent insights from social influence network theory to research in the affect control theory tradition. They argue that "when there are multiple persons involved in a situation who are simultaneously forming sentiments about the salient objects in the setting... then the normative sentiments (and expected behaviors) for the situation may be "negotiated"

within the group to some extent” (Friedkin and Johnsen 2003: 7). Building upon research by expectation states theorists, the authors discuss the importance of our performance expectations for others in the negotiation of both attitudes and normative sentiments.

Research on expectation states has shown that group members who are accorded high status commonly have this status legitimated within interaction (Berger, Cohen, and Zelditch 1972; Berger 1988). For example, high status group members are often given greater time and attention by the group and tend to receive deference and support for their ideas (Berger, Rozenholtz, and Zelditch 1980; Gould 2002), rendering them more influential than low status members. However, while expectations states theorists stress consensual performance expectations for the members of a group (e.g., Fisek, Berger, and Norman 1995), Friedkin and Johnsen (2003: 10) contend that consensus itself emerges “through a process of endogenous interpersonal influence” among group members, such that expectations “may be shifting rather than fixed.” Over the course of multiple interactions, interpersonal sentiments contribute to the weighting of group members’ opinions, such that group consensus disproportionately represents the initial views of highly influential members.

Based upon Friedkin and Johnsen’s (2003) arguments, two broad predictions can be made about the significance of social influence processes for the affective norms engaged during social interaction. First, we expect that people will modify their sentiments on the basis of influential others’ responses to the actors, behaviors, and objects in a given social situation. Second, we expect those occupying high status, high power social positions and those perceived as highly influential to cast a stronger vote in

determining average affective sentiments, or “norms” as they are conveyed. The research presented below explores these predictions, working at the intersections of social influence network theory and affect control theory to better understand how social influence processes may shape normative sentiments through social interaction. We additionally seek to distinguish experimentally manipulated expectations for group members from emergent perceptions of the group members’ relative social influence. Our specific hypotheses are outlined at the end of the section below.

### ***5.1 Research Design and Methods***

The present research examines social influence as a predictor of change in one’s opinions and identity sentiments through group interaction. Respondents reported their opinions about the resolution of a workplace dispute and their affective meanings for a set of associated identities before and after a group interaction involving the respondent and two other “students” – a group leader and third group member, both of whom were played by a research confederate. During the interaction, the group leader’s expressed opinion and behavioral characteristics were manipulated, along with the opinions of the third group member. The experimental design was 2 (leader opinion: pro-receptionist, pro-manager) × 2 (leader influence: high, low) × 2 (third group member opinion: support, oppose).

Participants were students at a private, four-year university. In total, 182 respondents (58.5% female) participated in the group deliberation task and completed the opinion and social influence measures. Of these 182, 122 respondents (61% female) additionally completed measures of affective meaning before and after the deliberation

task, to assess the effects of leader influence on meaning change. The affective meaning data of the remaining 60 respondents was not properly recorded due to a survey software malfunction. As a result, our analyses of opinion change and conditional effects on perceived influence draw upon 182 respondents, while our analyses of change in affective meaning draw upon 122.

To become eligible for participation in the study, each respondent completed an online pretest measure of leadership skills, abbreviated from the Leadership Assessment Instrument (Bennis 1999; see Appendix I). The instrument was designed to measure five categories of traits common to effective leaders: focused drive, emotional intelligence, trusted influence, conceptual thinking, and systems thinking. During the pretest, respondents completed an informed consent document, then reported how often each of 15 scale items reflected their behaviors, thoughts, intentions, or skills when working in groups, using a scale of one (*never*) to five (*always*). Afterward, they read a debriefing statement encouraging them to participate in the full study, which became available for sign-up upon completion of the pretest measure.

Respondents who went on to participate in the full study were led to believe that they would be working on a task in collaboration with two other students. In reality, both of these students were portrayed by the experimenter. Participants remained unaware of this fact until the end of the study, as all group interaction was computer-mediated. In addition, respondents were led to believe that their role assignment during the group interaction – as a member of the deliberation group rather than the group's leader – was determined by their responses to the leadership inventory completed

during the pretest. They were first informed of this role assignment when they signed up for participation in the full study. In reality, pretest responses were irrelevant to respondents' role assignment, and all participants were assigned to serve as group members. The roles of the group leader and the third group member were always performed by the experimenter.

These elements of deception were incorporated into the design for several reasons. First, the leadership pretest added legitimacy to the role assignments, and helped to establish respondents' performance expectations for the group leader. Second, to ensure the quality of our data, it was important that respondents believe they could have been assigned to either role; the greater likelihood of being assigned as a group member further minimized the potential for suspicion. Informing respondents of their role assignment well in advance of participation also helped to minimize any affective shifts resulting from role assignment. Third, the consistent assignment of respondents to the group member role allowed for greater control in varying the behavior of the group leader to test study hypotheses. Virtual communication between respondent and confederate not only made these design elements possible, but also contributed to experimental control by eliminating the intrusion of such biasing features of face-to-face interaction as status characteristics (e.g., Berger, Cohen, and Zelditch 1972).

On the day of the study, upon arrival at the lab, respondents were immediately taken to individual rooms and seated in front of a computer. After reading and signing an informed consent document, the experimenter explained to each respondent that they would be participating in a group study with two other students at the university

and would communicate with their group leader via the computer. They were told they would take part in a group interaction simulating “workplace decision-making” and were reminded of their role assignment. From this point on, respondents received all instructions and completed all questionnaires through MediaLab software, as this allowed for maximum control of error within the experimental environment.

First, respondents were instructed to rate their feelings about a variety of identities relating to the workplace and the self (see Appendix J). Affective data were collected using Surveyor, a Java applet embedded within the larger MediaLab study, which gathered respondents’ ratings of concepts on the dimensions of evaluation, potency, and activity (Heise 2001). Respondents used 9-point semantic differential scales to report their sentiments for 10 identities, which they rated on each affective dimension by dragging a cursor along continuous bipolar adjective scales. The anchoring adjectives that marked the scale endpoints (*evaluation*: good/nice vs. bad/awful; *potency*: big/powerful vs. little/powerless; *activity*: fast/young/noisy vs. slow/old/quiet) were taken from previous studies under the affect control research program (Smith-Lovin 1987). Depending on the position of the cursor on the scale, continuous scores were assigned to the respondents’ ratings, ranging from -4.3 for infinitely bad, weak, or calm through 0 to +4.3 for infinitely good, strong, or lively. This measure was used as a baseline for pre-interaction sentiments.

Next, respondents received instruction about the group deliberation task, in which the goal was to reach consensus on a workplace issue. They were told that the upcoming group interaction would “simulate a remote work group in which you will

work with others to solve a problem,” and were asked to consider the “group's decision as extremely important to your employer, who will act on the basis of your recommendation.” They were reminded of their role in the group task, and given instructions for the use of a web-based chat service to interact with the group. The issue up for discussion was then presented to them in a short vignette, which described the circumstances surrounding a sexual harassment claim (see Appendix K). After reading the vignette, respondents were asked to rate their opinion about the truth of the claim on a scale ranging from 1 (*truthful*) to 11 (*not truthful*). They also provided their opinion about how the company should respond to the claim: settling out of court, fighting the case in court, or some other response (open-ended). After responding to these questions, they began the group interaction task.

The assignment of roles for the deliberation task provided a social cue to the relative status of group members. Largely independent of actual task capability, those taking on the role of group leader are likely to be seen by others as task-competent, and to receive more action opportunities than non-leaders (e.g., Berger, Rosenholtz, and Zelditch 1980, Gould 2002). Thus, while modeled on the design of earlier work by Friedkin and colleagues (e.g., Friedkin 1999, Friedkin and Johnsen 1999), our research assigned the role of the leader and manipulated group characteristics rather than allowing these features to emerge organically through interaction. Past research on affect control suggests that the assistant (*evaluation*: 1.50, *potency*: 0.51, *activity*: 0.45) and leader (*evaluation*: 2.17, *potency*: 3.01, *activity*: 2.16) identities carry distinct affective profiles on all three dimensions of meaning, facilitating the clear differentiation of roles (Francis



and Heise 2006). While both identities are adequately positive (good, powerful, and active) to avoid conflict with respondents' orientation toward a collective outcome, they are sufficiently distinct from one another to signal a status difference in the context of the coming interaction.

All three manipulations in the study design were implemented during the group deliberation task. First, the confederate acting as group leader expressed either positive or negative sentiments toward the identity group and behavior relevant to the decision being made, depending on the condition. The specific sentiments expressed by the confederate were derived empirically using Program Interact (Heise 1997) and were selected both for relevance to the vignette and contrast in affective valence between conditions. Developed by affect control theorists, Interact draws upon empirically validated impression-change equations and sentiment data to derive precise predictions about behavior, emotion, and identity descriptors in specific situations. When endorsing the receptionist, the group leader referred to the receptionist as hardworking (1.33, 1.08, 1.06) and responsible (1.26, 0.92, 0.14), while referring to the manager as arrogant (-1.39, 0.73, 1.06) and sexist (-1.89, -0.23, 0.89). When endorsing the manager, the leader referred to the manager as hardworking (1.24, 1.85, 1.79) and responsible (1.18, 1.69, 0.87), and referred to the receptionist as a flirt (0.55, 1.04, 1.67) and a gossip (-1.82, 0.42, 1.09).

Second, the group leader's behavior was based upon attributes generated by Program Interact (Heise 1997) for either a leader (hardworking, passionate, imaginative, ambitious) or a lackey (apprehensive, inhibited, submissive, dependent). Thus, in the strong leader condition, the group leader (1) demonstrated initiative, competence, and

organization in discussing the issue, and (2) was thorough in explaining opinions and introducing the third group member's opinions. In the weak leader ("lackey") condition, the leader (1) relied on the respondent to take initiative in directing the discussion, and (2) was submissive, irresolute, and vague in explaining opinions. By manipulating the confederate's behavior in such a way, we hoped to learn whether the behavioral characteristics of a leader determine that leader's likelihood of shaping the opinions of others through social interaction.

Third, after a few minutes of deliberation with the group leader, respondents learned that the third group member's opinion either supported or opposed that of the leader. This manipulation was designed to test whether the agreement or disagreement of the third group member would affect the leader's likelihood of shaping respondents' opinions.

Following the group interaction, respondents were asked to report their group's decision about the truth of the receptionist's claim and the claim's resolution. They were also asked to rate their personal opinion about these two features of the claim, to report whether the group reached consensus, and to indicate whether they believed the group leader and third group member to be male or female (see Appendix L). Afterward, respondents reported their affective meanings for self as employee, partner as leader, and several of the other identity groups rated prior to the group deliberation task (Appendix M). Finally, respondents completed a measure of social influence (see Appendix N), modified from Friedkin (1999). In this task, they were asked to divide 20

poker chips into separate piles representing the relative influence of self, group leader, and the third group member in determining the outcome of the group deliberation.

Because deception was a necessary part of this study, respondents received a two-stage debriefing upon its completion. In the first stage, funnel debriefing, we gradually led respondents to the conclusion that they were deceived during their participation. In the second stage, participants read a debriefing statement informing them of the nature of the study and all deception therein. We additionally encouraged participants to discuss any remaining questions or concerns with the experimenter following the study session. The study lasted between 30 and 45 minutes and respondents were paid eight dollars for their participation. The Institutional Review Board issued approval for this research (see Appendix O).

With regard to conditional manipulations, we expected to find that (1) high-influence leaders and those exhibiting the behavioral characteristics of strong leader would be more likely than low-influence or weak leaders to elicit a shift in respondents' opinions and affective meanings, (2) that this shift would be in the direction of the opinions and sentiments expressed during the group interaction, and (3) that attitude and sentiment change would be most dramatic when the third group member agreed with the leader's opinion. We additionally expected that the perceived influence of the group and the group leader would be an important determinant of attitude and sentiment change, above and beyond what was explained by our conditional effects.

## **5.2 Analysis and Results**

The results of three sets of analyses are presented below. Our first set of analyses examines attitude change resulting from the group interaction. We explore the effects of our conditional manipulations and respondents' emergent perceptions of influence on change in respondents' attitudes about the truth of the receptionist's claim (5.2.1) and the resolution of this claim (5.2.2). Our second set of analyses explores change in affective meanings (i.e., ratings of evaluation, potency, and activity) for a set of vignette-related identities (5.2.3). We close by presenting some additional findings of interest, which pertain to respondents' attributions of gender for the group leader and third group member (5.2.4).

For all models presented below, perceived influence measures draw upon respondents' allocation of twenty poker chips to themselves, the group leader, and the third group member, representing each person's relative influence during the group deliberation. Our measure of group influence refers to the number of poker chips out of twenty that were allocated to the group's overall influence during the interaction, relative to the self, averaged with a second measure – twenty minus the number of poker chips allocated to the self ( $m=7.32$ ). These variables were incorporated into a single measure, as not all respondents reported allocations that added up to twenty; we nonetheless take their assessments to provide an accurate representation of their perceptions of relative influence. The perceived influence of the group leader ( $m=5.78$ ) and third group member ( $m=3.25$ ) were assessed using the number of poker chips that

were allocated to represent the influence of each member (out of the total allocated to the group).

Conditional manipulations had a significant effect on perceived influence in only one case; the interaction between leader attitudes and third group member attitudes was a significant predictor of the perceived influence of the group ( $p < .05$ ). An examination of least squares means indicates that groups were highest in influence when the leader endorsed the manager and the third group member agreed. Influence was significantly higher in such groups than in groups with pro-manager leaders that did not receive the support of the third group member, or groups with pro-receptionist leaders, even when they had the support of the third group member. Respondents' scores on the pretest measure of leadership did not significantly predict their ratings of the influence of the group, group leader, or third group member.

### **5.2.1 Change in Attitudes about the Truth of the Receptionist's Claim**

Three mixed-effects analyses of variance ( $N=182$ ) were conducted to examine change in respondents' attitudes about the truth of the receptionist's claim. Model 1 tests only the fixed effects resulting from our conditional manipulations, including both main effects and interactions between each variable. Model 2 additionally tests the random effects associated with respondents' perception of the social influence held by the group leader, self, and other respondent during the group interaction. Model 3 examines both fixed and random effects, and additionally considers interaction effects between the perceived influence of the leader, self, and third group member.

As described above, respondents' attitudes about the truth of the receptionist's claim were assessed at two time points, both before and after the group interaction, on an 11-point scale ranging from 1 (*truthful*) to 11 (*not truthful*). For each model, attitude change was assessed by subtracting respondents' post-interaction ratings from their pre-interaction ratings. Thus, positive attitude change reflects a pro-receptionist attitude shift (i.e., greater trust in the receptionist's claim), while negative change reflects a pro-manager attitude shift (i.e., reduced trust in the receptionist's claim).

**Table 5.1: Mixed-Effects ANOVA, Change in Attitudes about the Resolution of the Claim (N=170)**

	Model 1	Model 2	Model 3
	<i>F</i> -value	<i>F</i> -value	<i>F</i> -value
<i>Study Condition (Fixed Effects)</i>			
Leader Strength	1.31	2.05	1.98
Leader Attitudes	22.80***	21.78***	22.16***
Member 3 Attitudes	.01	.07	.27
Leader Strength x Leader Attitudes	.37	.31	.28
Leader Strength x Member 3 Attitudes	.43	.39	.12
Leader Attitudes x Member 3 Attitudes	9.72**	8.23**	5.37*
<i>Self-Report (Random Effects)</i>			
Perceived Group Influence		3.17	4.81*
Perceived Leader Influence		.12	.72
Perceived Member 3 Influence		.02	.18
Perceived Group x Leader Influence			7.76**
Perceived Group x Member 3 Influence			2.08
Perceived Leader x Member 3 Influence			1.26
R-square	.174	.184	.227
Model F	5.72***	4.02***	3.84***

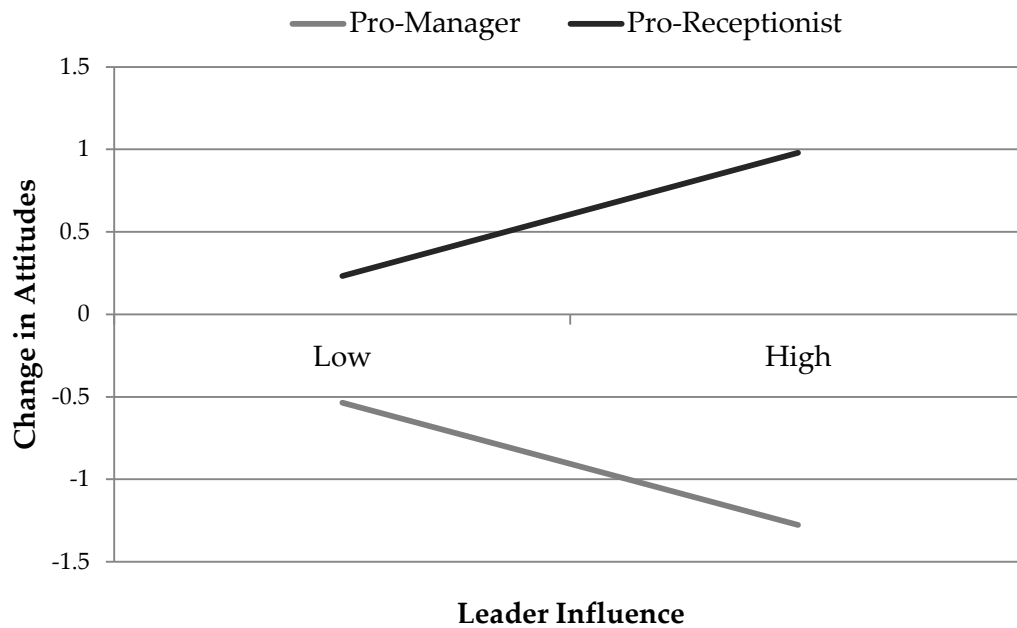
*Note.* Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Conditional effects suggest that leadership roles are endowed with social influence, whether leaders behave in a characteristically strong or weak manner (see

Table 5.1). Respondents' attitudes about the truth of the receptionist's claim were significantly affected by the group leader's expressed attitudes about the claim's truth ( $p < .001$ ), while unrelated to leader strength. These effects were in the expected direction, such that group leader endorsement of the receptionist generated pro-receptionist attitude shifts ( $m = .63$ ), while endorsement of the manager generated pro-manager attitude shifts ( $m = -.92$ ). Group consensus also predicted attitude change; a significant interaction was found between the group leader's attitudes and the agreement of the third group member ( $p < .002$ ). An examination of least squares means indicated that the effect of group leader attitudes on attitude change was significantly stronger when the third group member agreed with the leader's opinion, whether endorsing the manager ( $p < .05$ ) or the receptionist ( $p < .01$ ).

Additional random effects emerged with the added variables in Models 2 and 3, with Model 3 providing the best overall fit ( $p < .001$ ;  $R^2 = .23$ ). Model 2 identified a marginal effect of group influence on attitude change ( $p < .06$ ), although this effect became non-significant in Model 3. Positive change was found when groups were perceived as low-influence, representing a pro-receptionist attitude shift, while slight negative change was found for groups seen as high-influence, representing a pro-manager shift. In addition, perceived leader influence had a marginal effect on change in attitudes about the truth of the receptionist's claim in Model 2 ( $p < .06$ ) and a significant effect in Model 3 ( $p < .05$ ). Greater positive (i.e., pro-receptionist) change in attitudes was found in groups with high-influence versus low-influence leaders.

An examination of conditional means showed that the perceived influence of the leader determined the magnitude of respondents' attitude change, while the leader's attitudes determined its direction (see Figure 5.1). Pro-manager leaders elicited pro-manager (negative) change in attitudes, while pro-receptionist leaders elicited pro-receptionist (positive) attitude change. In each case, greater change was elicited by high-influence leaders than low-influence leaders. While non-significant, the same mean trend was identified for the relationship between attitude change and the perceived influence of the group.



**Figure 5.1: Perceived Leader Influence and Change in Attitudes about the Truth of the Receptionist's Claim, Split by Leader Attitudes**

In sum, the results of our first set of analyses provide support for many of the hypotheses set forth above. Findings confirmed our expectation that assigned group leaders would bear sufficient influence to elicit change in respondent attitudes in the



direction of the attitudes expressed by the leader. We also found support for our expectation that change would be significantly greater when the third group member agreed with the leader than when they disagreed, which indicates the importance of consensus in persuasion. We did not, however, find evidence that leaders exhibiting strong leadership behavior were any more likely than those exhibiting weak behavior to elicit change in respondent attitudes. As predicted, the perceived influence of the group leader had a significant effect on attitude change, with high-influence leaders producing greater change in attitudes than low-influence leaders in the direction of the leader's expressed attitude.

### **5.2.2 Change in Attitudes about the Resolution of the Claim**

Three mixed-effects analyses of variance (N=170) were conducted to examine change in respondents' attitudes about the resolution of the sexual harassment claim. As in our analyses of the truth of the receptionist's claim, Model 1 tested the effects of our conditional manipulations, and Model 2 examined conditional effects in conjunction with respondents' perceptions of social influence. Model 3 additionally considered interaction effects between the perceived influence of the leader, self, and third group member.

As described above, respondents' attitudes about the resolution of the claim were assessed at two time points, before and after the group interaction. Respondents could indicate that the company should settle the claim out of court, fight the charges in court, or make some other response (open-ended). The 12 respondents who specified 'some other response to the claim' both before and after the group interaction were

excluded from this analysis. Since there were only two response options, attitude change was operationalized such that +1 reflected stable pro-settlement attitudes and +2 reflected a shift to pro-settlement attitudes, while -1 reflected stable pro-court attitudes and -2 reflected a shift to pro-court attitudes. In other words, positive attitude change reflects a pro-settlement attitude shift following the group interaction (i.e., greater preference for settling the claim), while negative attitude change reflects a pro-court attitude shift (i.e., greater preference for fighting the claim).

**Table 5.2: Mixed-Effects ANOVA, Change in Attitudes about the Resolution of the Claim (N=170)**

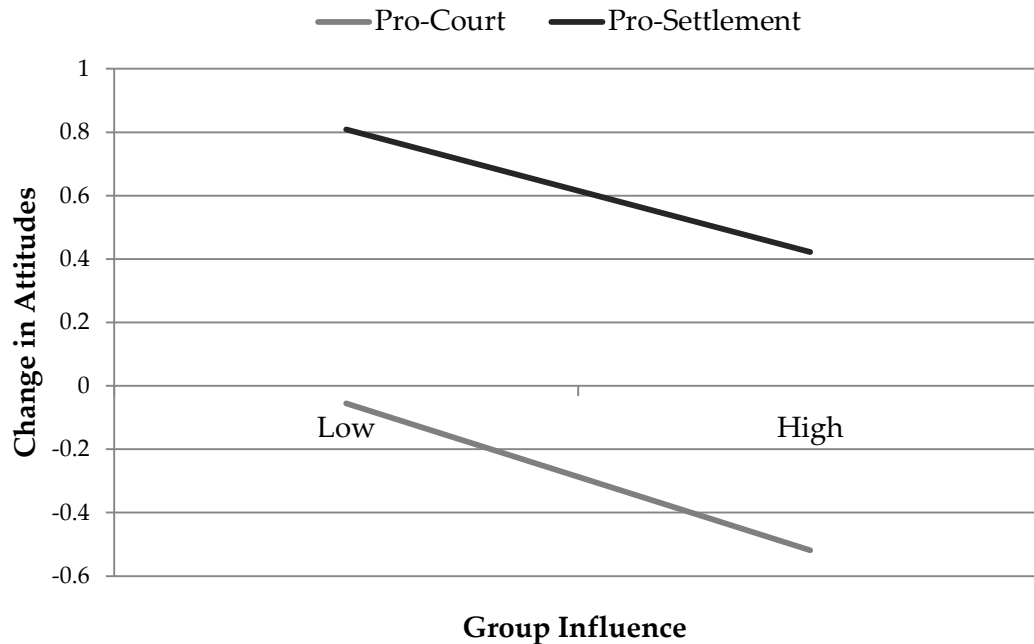
	Model 1	Model 2	Model 3
	<i>F</i> -value	<i>F</i> -value	<i>F</i> -value
<i>Study Condition (Fixed Effects)</i>			
Leader Strength	1.31	2.05	1.98
Leader Attitudes	22.80***	21.78***	22.16***
Member 3 Attitudes	.01	.07	.27
Leader Strength x Leader Attitudes	.37	.31	.28
Leader Strength x Member 3 Attitudes	.43	.39	.12
Leader Attitudes x Member 3 Attitudes	9.72**	8.23**	5.37*
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Perceived Group Influence		3.17	4.81*
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Perceived Group x Leader Influence			7.76**
Perceived Group x Member 3 Influence			2.08
Perceived Leader x Member 3 Influence			1.26
R-square	.174	.184	.227
Model F	5.72***	4.02***	3.84***

*Note.* Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

As before, models identified leader attitudes and group consensus as key predictors of change in attitudes about the resolution of the claim (see Table 5.2).

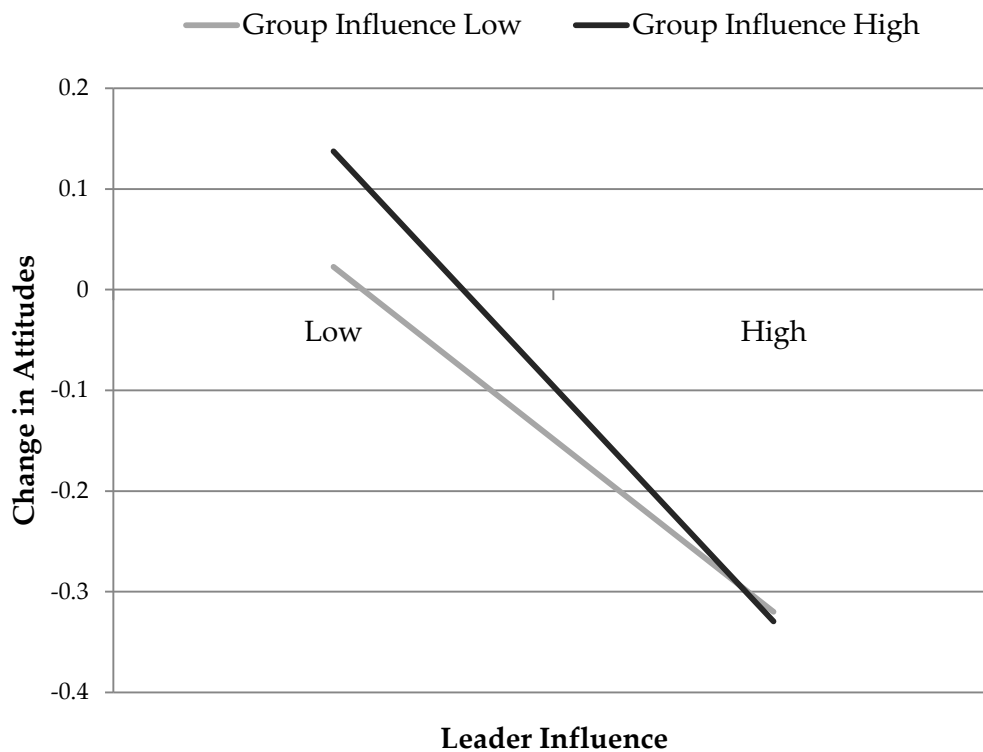
Attitude change was significantly associated with the group leader's expressed attitudes ( $p < .001$ ), while unrelated to leader strength. This effect was in the expected direction, such that group leader endorsement of resolution in court generated pro-court attitude shifts ( $m = -.06$ ), while endorsement of settlement generated pro-settlement attitude shifts ( $m = .59$ ). In addition, a significant interaction effect was found between the group leader's attitudes and the attitudes of the third group member ( $p < .05$ ). An examination of least squares means indicated that the effects of group leader attitudes on change in respondents' attitudes about the resolution of the claim were significantly stronger when the third group member agreed with the leader's attitudes, whether endorsing court ( $p < .05$ ) or settlement ( $p = .02$ ).

Additional random effects emerged with the added variables in Models 2 and 3, with Model 3 providing the best overall fit ( $p < .001$ ;  $R^2 = .23$ ). Above and beyond conditional effects, perceived group influence had a significant negative effect on change in attitudes about the resolution of the claim ( $p < .05$ ). Positive change was found when groups were perceived as low-influence, representing a pro-settlement attitude shift, while slight negative change was found for groups seen as high-influence, representing a pro-court shift. An examination of conditional means revealed distinct effects of group influence based on leader attitudes (see Figure 5.2). Pro-court leaders were associated with more pro-court change in attitudes when the group was perceived as high versus low in influence. Interestingly, the trend was reversed for groups with pro-settlement leaders, for which high-influence groups were associated with less pro-settlement change in attitudes than low-influence groups.



**Figure 5.2: Perceived Group Influence and Change in Attitudes about the Resolution of the Claim, Split by Leader Attitudes**

Additionally, the interaction between perceived group influence and perceived leader influence had a significant effect on change in attitudes about claim resolution ( $p < .01$ ). Broadly speaking, high-influence leaders elicit comparable change in attitudes regardless of the perceived influence of the group, while low-influence leaders elicit greater change when paired with a high-influence versus low-influence group (see Figure 5.3). Moreover, while high-influence leaders tend to be associated with negative (i.e., pro-court) attitude shifts, low-influence leaders are associated with positive (i.e., pro-settlement) shifts, regardless of group influence.



**Figure 5.3: Change in Attitudes about the Resolution of the Claim as Predicted by the Interaction between Group and Leader Influence**

As above, an examination of means revealed distinct patterns based on leader attitudes. Pro-settlement leaders were consistently effective in eliciting pro-settlement attitude change. High-influence leaders were associated with more positive change than low-influence leaders, regardless of the perceived influence of the group. Interestingly, low-influence groups were associated with more pro-settlement change than high-influence ones, regardless of leader influence. Pro-court leaders, when perceived as low-influence, elicited slight pro-court change in attitudes, regardless of the perceived influence of the group. However, high-influence leaders had quite different effects depending on the perceived influence of the group; while high-influence groups elicited

a strong pro-court change in attitudes, low-influence groups elicited a pro-settlement attitude shift.

These unexpected findings with regard to the perceived influence of the group can be explained, in large part, by an irregularity in the distribution of our measure of attitude change. Respondents had a strong preference for the settlement of the claim prior to participation in the deliberation task, with 50.6 percent in favor of settlement both before and after the group interaction. In contrast, only 14.8 percent of respondents had a stable preference for fighting the charges in court. Our first set of analyses, which relied on a continuous measure of attitude change, was not susceptible to this bias.

Although this irregularity in the data should not affect our interpretation of the conditional effects, as respondents were randomly assigned to condition, we might think of our perceived influence findings in terms of reversed causality. It is quite likely that respondents' overwhelming and stable support for settlement drove their perception of the group as low-influence, and not the other way around. Nonetheless, the association between perceived leader influence and attitude change still seemed to operate in a manner consistent with our first analysis, likely due to our direct manipulation of leader behavior and attitudes.

In sum, results supported our expectation that group interaction would produce attitude change in the direction of the attitudes expressed by the leader, and that greater attitude change would occur when the third group member agreed than when they disagreed. As in our analyses of the perceived truth of the receptionist's claim, findings did not support our prediction that leaders exhibiting strong leadership behavior would

elicit more change than weak leaders. In addition, low-influence groups tended to be associated with more attitude change, particularly pro-settlement change, than groups perceived as high-influence. In support of our expectations, high-influence leaders were associated with greater pro-settlement attitude change than low-influence leaders when endorsing settlement, and with greater pro-court attitude change than low-influence leaders when endorsing court and paired with a high-influence group.

### **5.2.3 Change in the Meaning of Vignette-Related Identities**

The analyses presented below examine change in respondents' affective meanings for five identities associated with the group deliberation task: receptionist, manager, flirt, sexist, and victim. Analyses were run separately for each identity under study, and for judgments of evaluation, potency, and activity. Thus, for each identity, we ran nine mixed-effects analyses of variance (N=122) following the pattern of the models presented above. Model 1 tested the effects of our conditional manipulations on change in affective meanings, Model 2 additionally examined the effects of respondents' perceptions of social influence, and Model 3 considered interaction effects between the perceived influence of the leader, self, and third group member. The dependent variable in each analysis was change in affective meanings, quantified as the squared distance between respondents' ratings of an identity on a given dimension prior to and following the group interaction.

*Receptionist and Manager.* Past research (Francis and Heise 2006) has found that a receptionist is typically seen as mildly good, powerful, and active (*evaluation*: 1.00, *potency*: .37, *activity*: .16); a manager is seen as comparably good, but higher in potency

and activity (*evaluation*: .98, *potency*: 1.57, *activity*: 1.34). Prior to reading the vignette or participating in the group interaction, respondents in the present research tended to view a receptionist (*evaluation*: 1.71, *potency*: -.45, *activity*: .92) as more than twice as good, but considerably less powerful and slightly less active, than a manager (*evaluation*: .76, *potency*: 2.10, *activity*: 1.33). Thus, at baseline, our respondents saw a larger gap in affective meanings between the receptionist and manager identities than was found in earlier research, particularly with regard to these identities' evaluation and potency. Following the interaction, a receptionist was seen as less good, less powerless, and slightly more active, on average, than before the interaction (*evaluation*: 1.08, *potency*: -.27, *activity*: 1.08). A manager was seen as slightly less powerful, though judgments of evaluation and activity remained fairly stable (*evaluation*: .75, *potency*: 1.84, *activity*: 1.36).

An examination of conditional means showed that judgments of a receptionist's goodness declined by .64 regardless of whether the group leader endorsed the manager or the receptionist. While judgments of a receptionist's potency increased slightly when the leader endorsed the manager ( $\Delta=.06$ ), they increased by a larger amount when the leader endorsed the receptionist ( $\Delta=.29$ ). In contrast, judgments of a receptionist's activity increased by a larger amount when the leader endorsed the manager ( $\Delta=.22$ ) versus the receptionist ( $\Delta=.11$ ). Thus, following the group interaction, a receptionist was viewed as more powerful when the leader endorsed the receptionist, more active when the leader endorsed the manager, and less good regardless of the leader's expressed attitudes about the claim.



Judgments of a manager's evaluation decreased when the leader endorsed the manager ( $\Delta=-.12$ ), but increased when the leader endorsed the receptionist ( $\Delta=.09$ ). The perceived potency of a manager declined regardless of leader attitudes, but decreased by twice as much when the leader endorsed the manager ( $\Delta=-.34$ ) versus the receptionist ( $\Delta=-.17$ ). Judgments of activity were fairly stable; while there was a slight increase in activity when the leader endorsed the manager ( $\Delta=.08$ ) activity decreased slightly when the leader endorsed the receptionist ( $\Delta=-.01$ ). Thus, following the group interaction, a manager was viewed as less good, less powerful, and more active when the leader endorsed the manager than when they endorsed the receptionist.

However, no significant conditional or random effects emerged from analyses of change in affective meanings for the receptionist and manager identities. In part, this may reflect the small cell size in our analyses of meaning change, as a function of a software glitch during data collection. It also seems to reflect general agreement about and stability of affective meanings for these two identities, which are linked to clear status differences. In support of the latter explanation, the receptionist and manager identities generally had lower standard deviations for judgments on all three dimensions than the other concepts we examined (i.e., flirt, sexist, victim).

*Flirt.* During the group interaction, group leaders who endorsed the manager revealed an impression of the receptionist as a flirt. Past research (Francis and Heise 2006) has found that a flirt is typically seen as good, potent, and active (*evaluation*: 1.35, *potency*: 1.32, *activity*: 1.77). Respondents in the present research held similar meanings for this identity prior to reading the vignette or participating in the group interaction

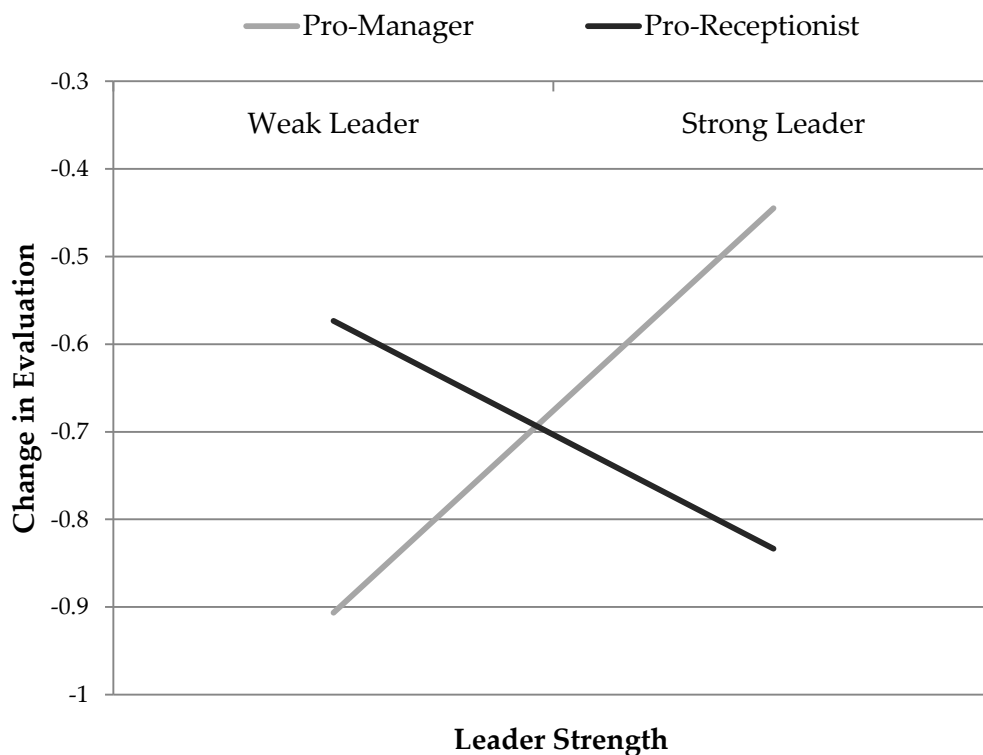
(*evaluation: .65, potency: .71, activity: 2.10*). Following the interaction, a flirt was, on average, perceived as less good and active, and slightly more powerful than before the interaction (*evaluation: .03, potency: .80, activity: 1.85*). Results identified distinct effects of the group interaction on respondents' judgments of the evaluation, potency, and activity of this identity (see Table 5.3). Although model fit was not strong enough to reach significance for any of the models we tested, r-squared values were generally highest for Model 3, ranging between .106 and .124.

**Table 5.3: Mixed-Effects ANOVA, Change in Affective Meanings for the 'Flirt' Identity (N=122)**

	Model 1			Model 2			Model 3		
	E	P	A	E	P	A	E	P	A
	F-value			F-value			F-value		
<i>Study Condition (Fixed Effects)</i>									
Leader Strength	.09	.01	3.02	.15	.02	3.04	.16	.21	2.36
Leader Attitudes	.85	.00	6.06*	.83	.00	5.91*	1.20	.00	5.51*
Member 3 Attitudes	.29	1.15	.36	.36	2.01	.35	.28	2.61	.29
Leader Str. x Leader Att.	4.33*	.33	3.73†	3.42	.13	3.48	3.49	.13	3.97*
Leader Str. x Member 3 Att.	3.64†	.01	.01	3.36	.00	.02	3.25	.02	.00
Leader Att. x Member 3 Att.	.98	.02	.06	1.08	.25	.05	.35	.84	.06
<i>Self-Report (Random Effects)</i>									
Perceived Group Influence				.19	.86	.09	2.43	.40	.02
Perceived Leader Influence				.51	.35	.12	.24	2.80	3.05
Perceived Member 3 Infl.				2.15	.62	.02	.48	.11	.10
Perc. Group x Leader Infl.							.94	6.63*	1.13
Perc. Group x Member 3 Infl.							1.71	.11	.39
Perc. Leader x Member 3 Infl.							.90	.00	1.51
R-square	.077	.013	.096	.101	.047	.097	.120	.106	.124
Model F	1.62	.25	2.04	1.40	.62	1.35	1.25	1.09	1.30

*Note.* Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

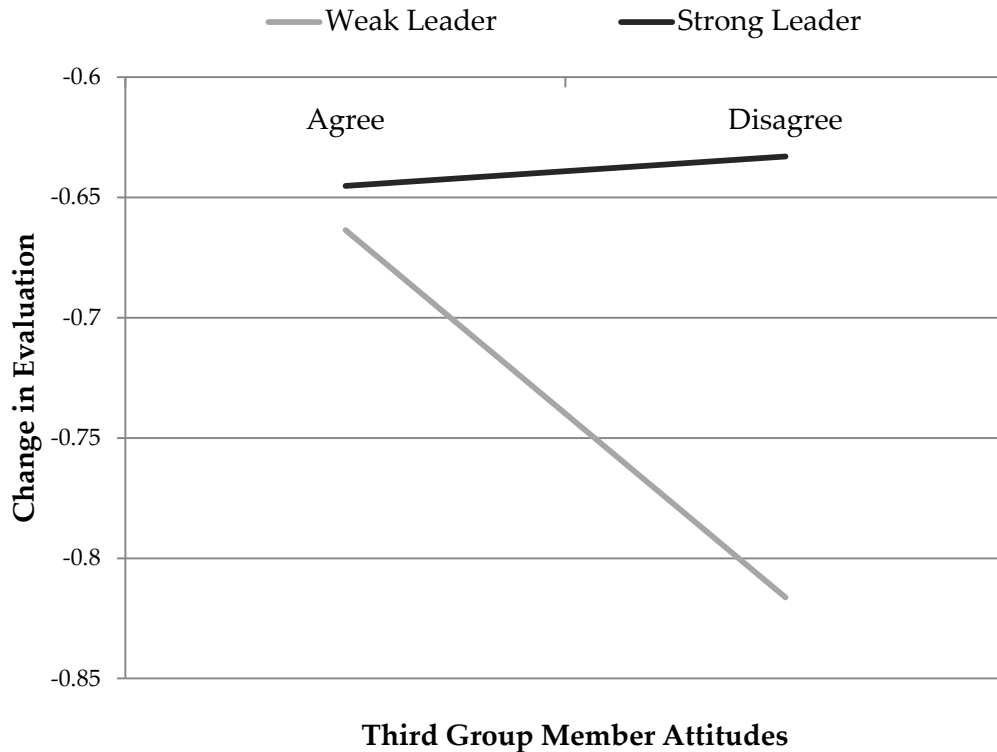
Model 1 found that change in respondents' evaluation of a flirt was associated with the interaction between leader strength and leader attitudes ( $p < .05$ ). This effect dropped below the threshold for significance in Models 2 and 3. Greater change in evaluation occurred when weak leaders were pro-manager, and when strong leaders were pro-receptionist. While a flirt was consistently viewed as lower in evaluation after the group interaction, the negative shift in evaluation was greatest when weak leaders endorsed the manager and strong leaders endorsed the receptionist (see Figure 5.4).



**Figure 5.4: Change in Evaluation Ratings of a 'Flirt' as Predicted by the Interaction between Leader Strength and Leader Attitudes**

Model 1 also identified a marginally significant interaction between the leader's attitudes and the third group member's attitudes in predicting change in evaluation ( $p < .06$ ). Strong leaders produced fairly consistent amounts of negative change in

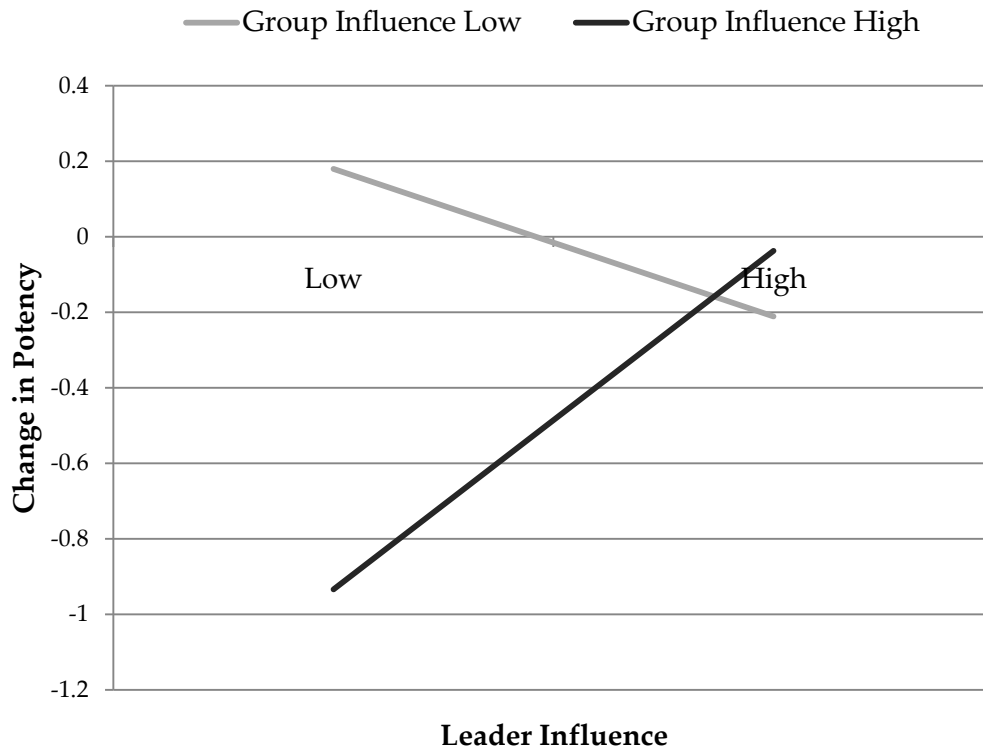
evaluation regardless of the third group member's attitudes – comparable to the amount of change found in groups where the third group member was in agreement with a weak leader (see Figure 5.5). Interestingly, groups with weak leaders who lacked the support of the third member elicited greater negative change in evaluation than other conditions.



**Figure 5.5: Change in Evaluation Ratings of a 'Flirt' as Predicted by the Interaction between Leader Strength and Third Group Member Attitudes**

Change in respondents' ratings of the potency of a flirt was significantly associated with the interaction between perceived group and leader influence ( $p < .02$ ). Regardless of perceived leader influence, high-influence groups elicited negative change in potency, as did low-influence groups with high-influence leaders (see Figure 5.6). Negative change was greatest for high-influence groups with low-influence leaders. In

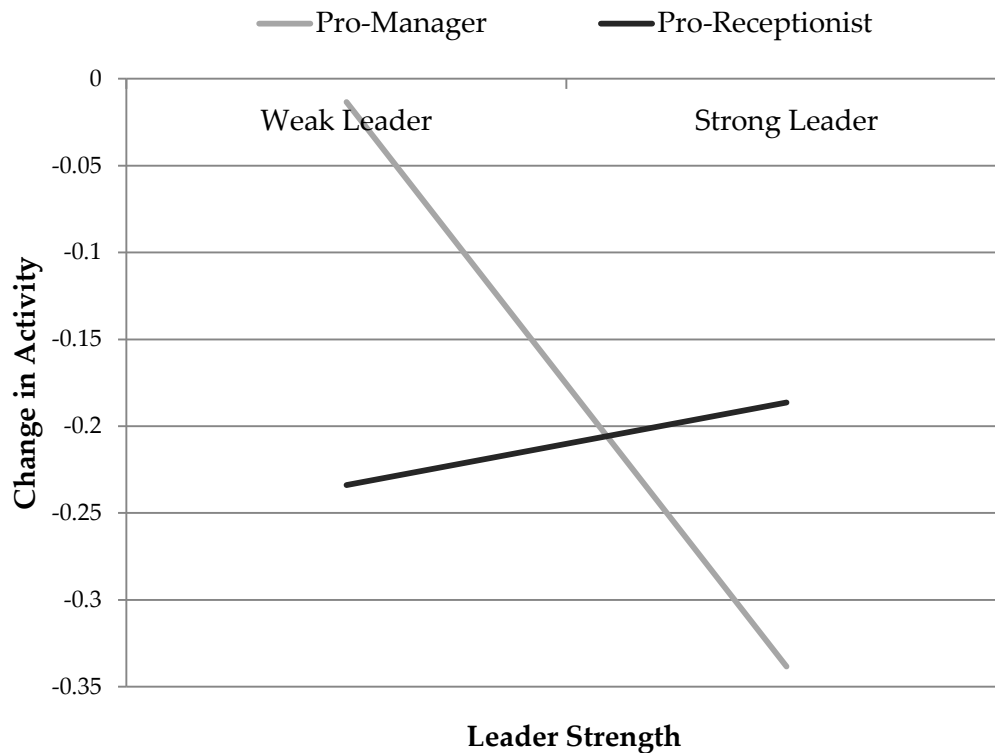
contrast, low-influence groups with low-influence leaders elicited positive change in potency. In other words, a flirt was generally perceived as less powerful after the group interaction, except when both the group and its leader were perceived as low-influence.



**Figure 5.6: Change in Potency Ratings of a 'Flirt' as Predicted by the Interaction between Group and Leader Influence**

Change in the perceived activity of a flirt was significantly associated with leader attitudes ( $p < .05$ ) and the interaction between leader strength and leader attitudes ( $p < .05$ ). Greater change in activity was found when the leader endorsed the manager than the receptionist, though a flirt was perceived as less active following the group interaction across all conditions (see Figure 5.7). When endorsing the receptionist, change in activity was fairly comparable for weak and strong leaders. When endorsing the manager,

however, strong leaders elicited substantially more negative change in activity than weak leaders.



**Figure 5.7: Change in Activity Ratings of a 'Flirt' as Predicted by the Interaction between Leader Attitudes and Leader Attitudes**

*Sexist*. During the group interaction, group leaders who endorsed the receptionist revealed an impression of the manager as a sexist. Past research (Francis and Heise 2006) has found that a sexist is typically viewed as bad, slightly weak, and somewhat active (*evaluation*: -1.89, *potency*: -.23, *activity*: .89). Respondents in the present research held similar meanings for this identity prior to reading the vignette or participating in the group interaction, viewing a sexist as bad and somewhat active, but slightly powerful (*evaluation*: -2.12, *potency*: .15, *activity*: .98). Results identified distinct effects of the group interaction on respondents' judgments of the evaluation, potency,

and activity of this identity (see Table 5.4). Although model fit was not strong enough to reach significance for any of the models we tested, r-squared values were generally highest for Model 3, ranging between .137 and .155.

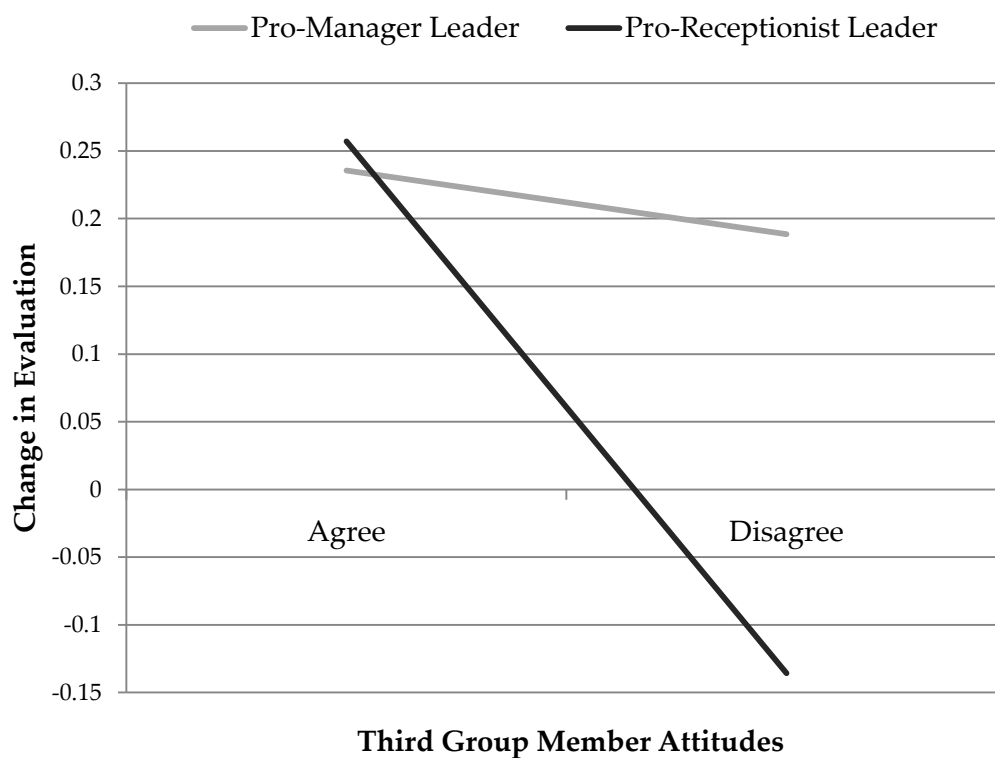
**Table 5.4: Mixed-Effects ANOVA, Change in Affective Meanings for the ‘Sexist’ Identity (N=122)**

	Model 1			Model 2			Model 3		
	E	P	A	E	P	A	E	P	A
	F-value			F-value			F-value		
<i>Study Condition (Fixed Effects)</i>									
Leader Strength	1.24	1.21	.15	1.20	1.83	.26	1.74	2.35	.23
Leader Attitudes	.18	1.06	.26	.20	1.19	.28	.15	.75	.05
Member 3 Attitudes	.10	.30	.15	.00	.94	.12	.01	1.03	.25
Leader Str. x Leader Att.	.05	.87	.62	.05	1.13	.14	.05	1.31	.02
Leader Str. x Member 3 Att.	1.82	.73	1.83	1.99	1.17	1.22	1.74	1.50	1.63
Leader Att. x Member 3 Att.	5.88*	.14	.24	4.03*	.00	.16	2.19	.14	.05
<i>Self-Report (Random Effects)</i>									
Perceived Group Influence				1.06	.47	2.02	.49	2.48	.31
Perceived Leader Influence				.03	7.59**	2.58	1.89	.00	2.10
Perceived Member 3 Infl.				.25	.07	8.03**	.78	.06	8.73**
Perc. Group x Leader Infl.							5.01*	3.86†	.01
Perc. Group x Member 3 Infl.							.01	.28	.19
Perc. Leader x Member 3 Infl.							.12	.01	2.18
R-square	.073	.038	.029	.101	.121	.109	.141	.155	.137
Model F	1.50	.75	.56	1.40	1.72	1.52	1.49	1.67	1.45

*Note.* Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

Change in respondents’ evaluation of a sexist was significantly predicted by the interaction between the leader’s attitudes and the agreement of the third group member in Models 1 and 2 ( $p < .05$ ). When the leader endorsed the manager, there was more change in judgments of evaluation when the third group member agreed than disagreed. An examination of conditional means suggests that respondents’ evaluations

of a sexist shifted in a positive direction when the leader endorsed the manager, regardless of whether the third member agreed or disagreed (see Figure 5.8). A positive shift in evaluation also occurred when the leader endorsed the receptionist and the third group member agreed. Interestingly, the sexist identity was rated more negatively after the group interaction when the leader endorsed the receptionist and the third group member disagreed.

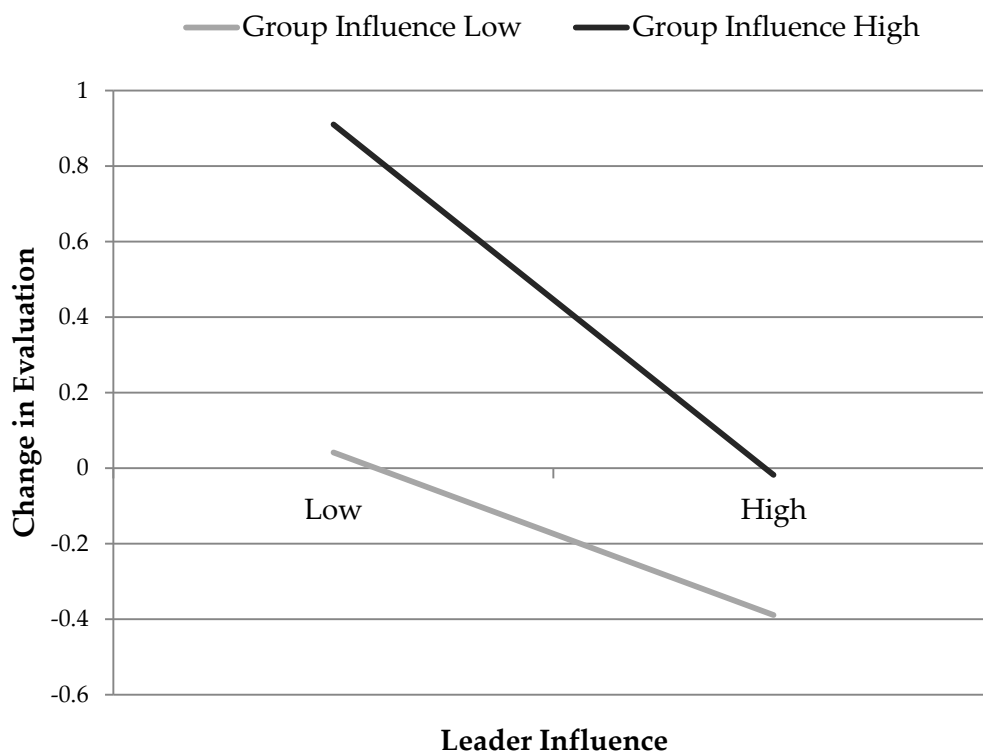


**Figure 5.8: Change in Evaluation Ratings of a 'Sexist' as Predicted by the Interaction between Leader Attitudes and Third Group Member Attitudes**

In Model 3, the interaction between leader attitudes and the agreement of the third group member became non-significant, and was replaced by a significant interaction between perceived group and leader influence ( $p < .01$ ). Low-influence groups with high-influence leaders elicited the most change in evaluations of a sexist, followed



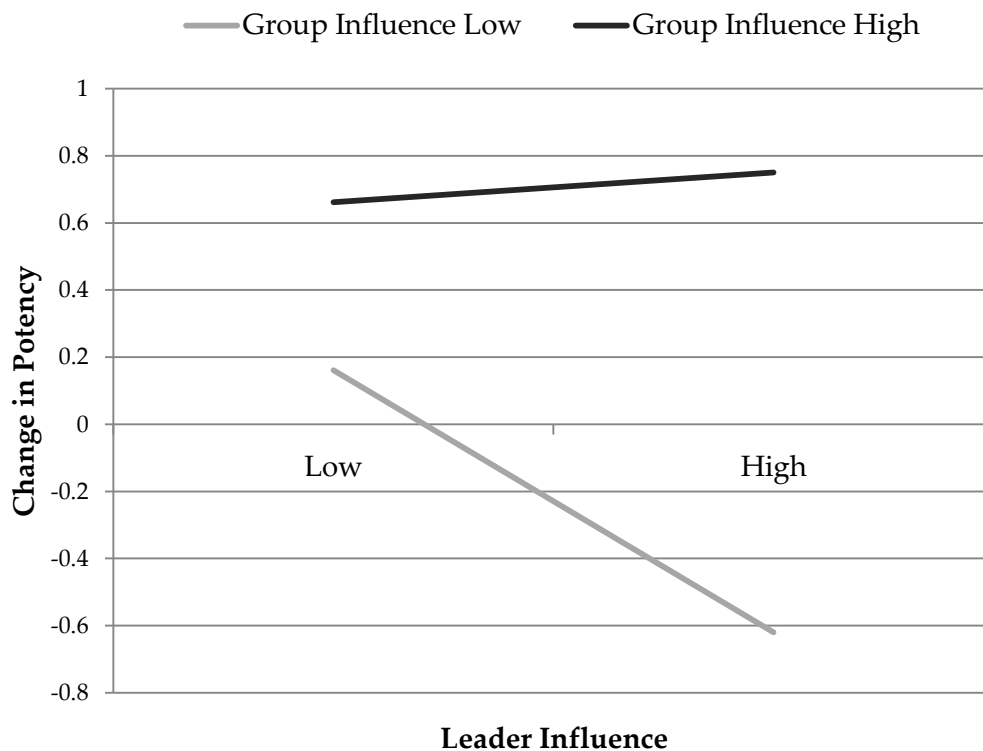
by high-influence groups with low-influence leaders. An examination of conditional means showed that when leaders were perceived as high-influence, the sexist identity was evaluated more negatively after the group interaction task, regardless of the perceived influence of the group (see Figure 5.9). Negative shift was largest for high-influence leaders paired with low-influence groups. When leaders were perceived as low-influence, this identity was evaluated more positively after interaction, regardless of group influence. Positive shift was largest for low-influence leaders paired with high-influence groups.



**Figure 5.9: Change in Evaluation Ratings of a 'Sexist' as Predicted by the Interaction between Perceived Group and Leader Influence**

While none of the conditional manipulations had a direct effect on change in potency ratings of the sexist identity, effects of perceived influence were identified in

Models 2 and 3 (see Table 5.4). A significant effect of perceived leader influence was found in Model 2 ( $p < .01$ ), indicating greater positive change in respondents' potency ratings of a sexist as the perceived influence of the group leader increased. In Model 3, this effect was replaced by a marginally significant interaction between perceived group and leader influence ( $p < .06$ ). An examination of means reveals that the effects of perceived leader influence were conditioned by the perceived influence of the group as a whole (see Figure 5.10). Positive change in potency ratings was found in high-influence groups, regardless of the leader's perceived influence, and in low-influence groups with a low-influence leader. However, low-influence groups with a high-influence leader elicited negative change in potency.



**Figure 5.10: Change in Potency Ratings of a 'Sexist' as Predicted by the Interaction between Perceived Group and Leader Influence**

Change in activity ratings of the sexist identity were significantly associated with the perceived influence of the third group member in both Model 2 and Model 3 ( $p < .01$ ). When the third group member was perceived as having low influence, activity ratings of a sexist became more negative over the course of the interaction. When the third group member high-influence, however, activity ratings became more positive. As with analyses of change in potency, no direct conditional effects were identified.

*Victim.* Past research (Francis and Heise 2006) has found that a victim is typically viewed as bad, weak, and inactive (*evaluation*: -1.33, *potency*: -2.42, *activity*: -1.61). Prior to reading the vignette or participating in the group interaction, respondents in the present research held similar meanings for a victim on the dimensions of potency and activity, but viewed this identity as somewhat good (*evaluation*: .74, *potency*: -2.23, *activity*: -1.35). Results identified distinct effects of the group interaction on respondents' judgments of the evaluation, potency, and activity of this identity (see Table 5.5). Model fit was strong enough to reach significance for Model 3, with r-squared values for this model ranging between .167 and .208.

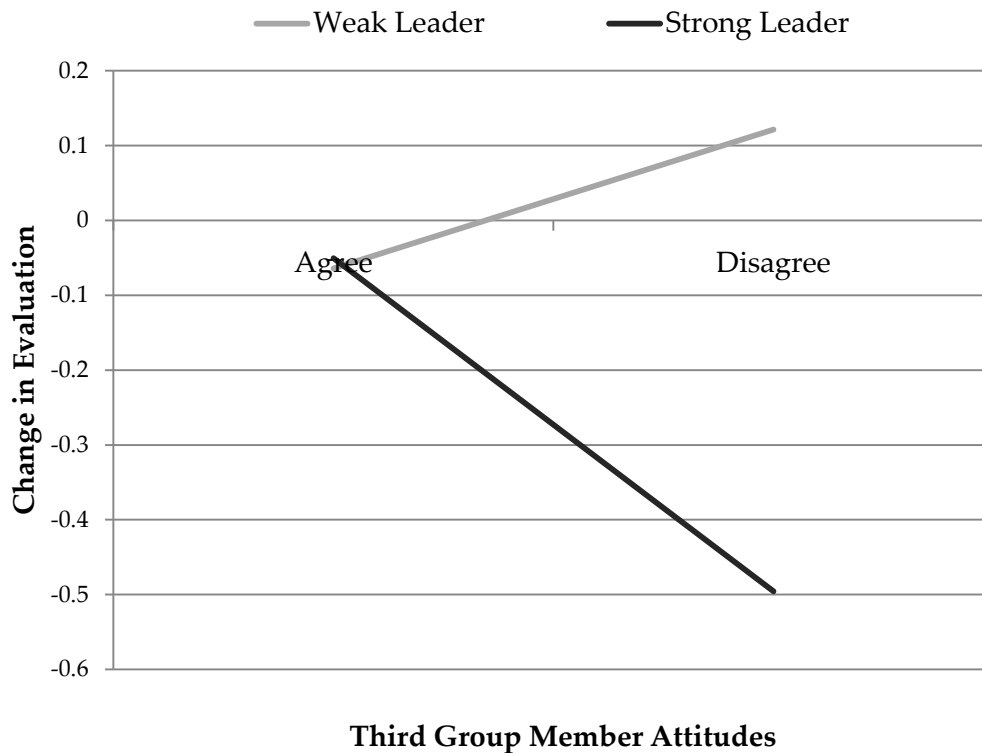
**Table 5.5: Mixed-Effects ANOVA, Change in Affective Meanings for the ‘Victim’ Identity (N=122)**

	Model 1			Model 2			Model 3		
	E	P	A	E	P	A	E	P	A
	F-value			F-value			F-value		
<i>Study Condition (Fixed Effects)</i>									
Leader Strength	.11	.26	1.01	.12	.19	.96	.51	.14	.52
Leader Attitudes	.23	2.64	.04	.28	2.84	.04	.22	4.42*	.00
Member 3 Attitudes	.03	.30	.10	.55	1.05	.50	.88	1.72	1.15
Leader Str. x Leader Att.	.73	4.63*	.04	.35	3.40	.05	.35	4.41*	.25
Leader Str. x Member 3 Att.	3.95*	.07	.33	4.83*	.11	.33	4.24*	.25	.39
Leader Att. x Member 3 Att.	1.32	.00	.32	.27	.19	.00	.00	.37	.77
<i>Self-Report (Random Effects)</i>									
Perceived Group Influence				3.37	.81	.31	.46	.60	2.99
Perceived Leader Influence				.35	1.27	1.39	4.18*	.26	.56
Perceived Member 3 Infl.				.63	2.09	.80	.06	1.63	8.68**
Perc. Group x Leader Infl.							10.4**	.18	11.7***
Perc. Group x Member 3 Infl.							.00	1.56	.00
Perc. Leader x Member 3							.01	1.7	5.31*
R-square	.048	.062	.015	.129	.124	.072	.208	.167	.189
Model F	.98	1.29	.30	1.86	1.77	.98	2.40**	1.84†	2.13*

*Note.* Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Affective dimensions are abbreviated as follows: E = evaluation, P = potency, A = activity.

Change in respondents’ evaluation of a victim was significantly predicted by the interaction between the strength of the group leader and third group member’s attitudes in all three models ( $p < .05$ ). For weak leaders, greater change was found in respondents’ evaluation of a victim when the third group member agreed with the leader; for strong leaders, change was greater when the third group member disagreed. Negative change in evaluation was found in groups with a strong leader, regardless of the third group member’s attitudes, and in groups with a weak leader supported by the third group

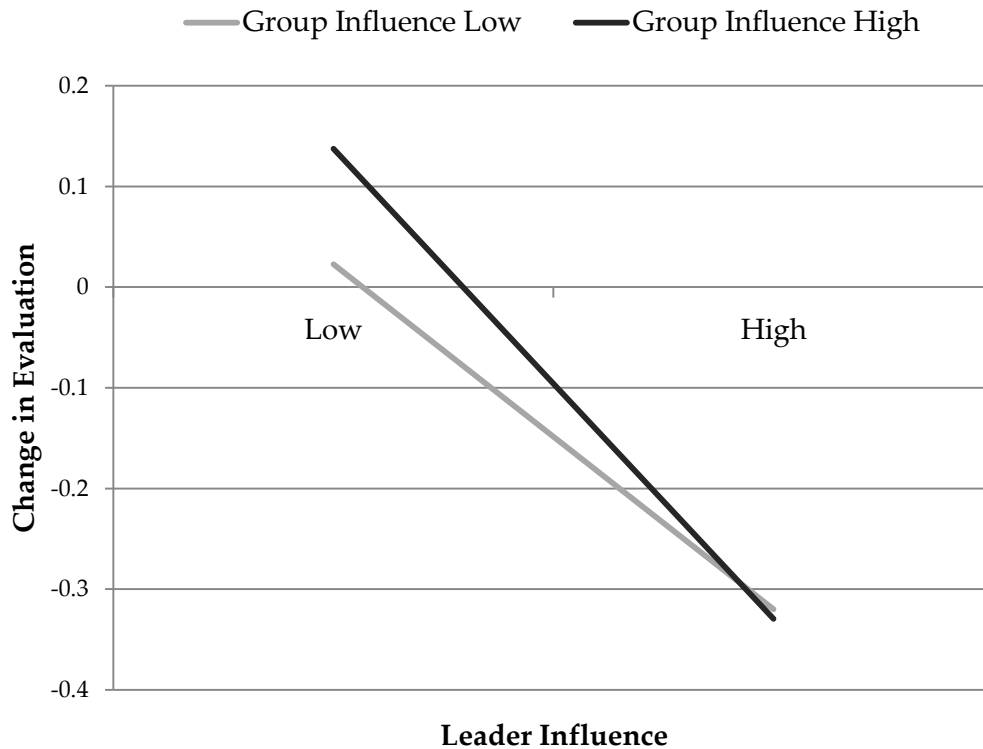
member (see Figure 5.11). However, positive change in evaluation occurred when weak leaders lacked the support of the third group member.



**Figure 5.11: Change in Evaluation Ratings of a ‘Victim’ as Predicted by the Interaction between Leader Strength and Third Group Member Attitudes**

Model 3 revealed two additional effects on respondents’ evaluation of the victim identity. First, considerably more change was found in evaluations of the victim when leader influence was high than when it was low ( $p < .05$ ). High-influence leaders elicited positive change in evaluation, while low-influence leaders elicited negative change. Second, change in respondents’ evaluation of a victim was significantly predicted by the interaction between the perceived influence of the group and group leader ( $p < .01$ ). More change was found for high- than low-influence leaders. An examination of means reveals that leaders perceived as high-influence elicited negative change in evaluations

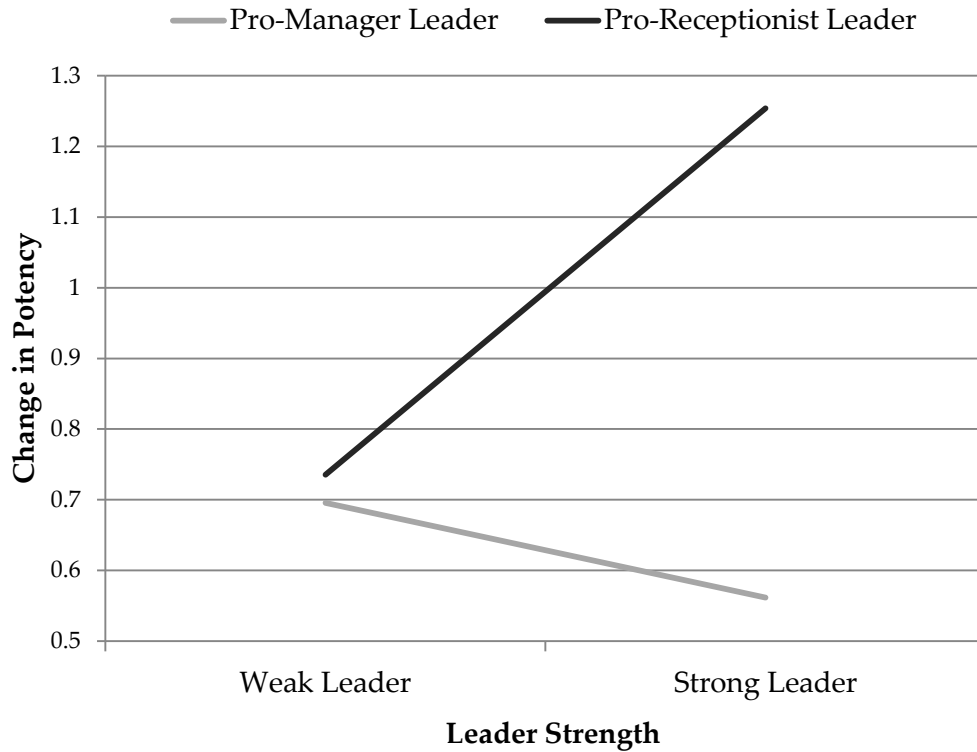
of the victim identity, regardless of the perceived influence of the group (see Figure 5.12). When group leaders were perceived as low-influence, a positive shift in evaluation occurred; this shift was largest when group influence was perceived to be high.



**Figure 5.12: Change in Evaluation Ratings of a 'Victim' as Predicted by the Interaction between Perceived Group and Leader Influence**

Change in the perceived potency of a victim was significantly associated with leader attitudes ( $p < .05$ ) and the interaction between leader strength and leader attitudes ( $p < .05$ ). Specifically, greater positive change was found in potency ratings when the leader endorsed the receptionist than the manager. While victims were consistently viewed as more powerful after the group interaction, they were seen as significantly more powerful when the group leader expressed pro-receptionist attitudes. Strong leaders with pro-receptionist attitudes elicited by far the most positive change in ratings

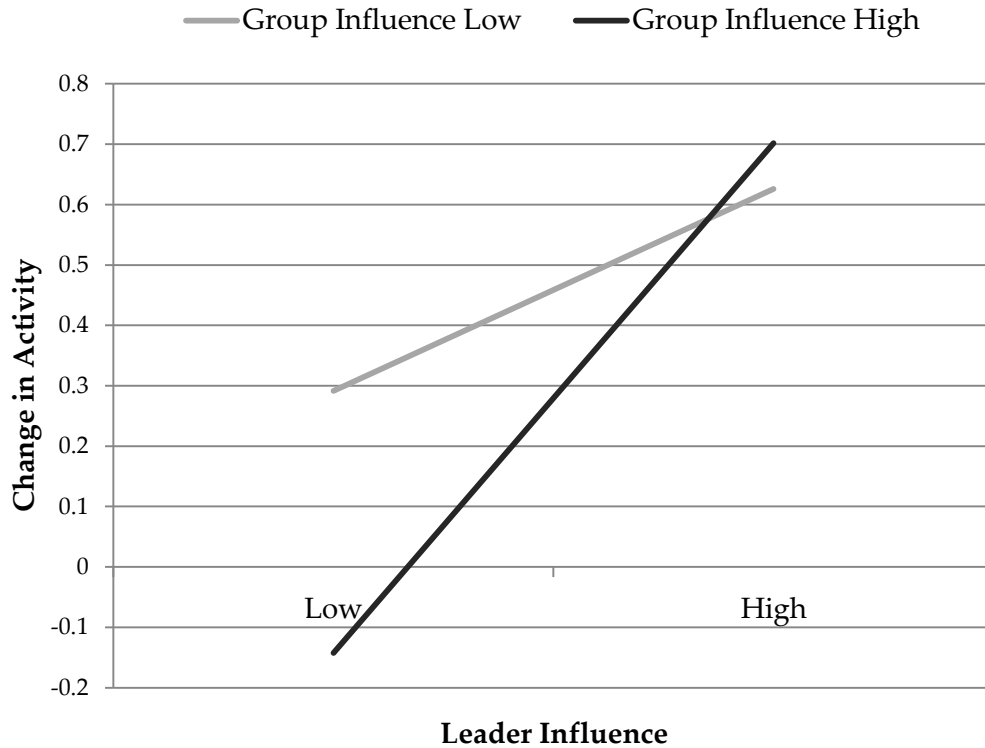
of potency (see Figure 5.13). Positive change in potency was lowest in groups with pro-manager leaders, particularly when leaders exhibited strong leadership behavior.



**Figure 5.13: Change in Potency Ratings of a ‘Victim’ as Predicted by the Interaction between Leader Strength and Leader Attitudes**

Change in respondents’ ratings of the activity of a victim was significantly associated with three effects in Model 3: the perceived influence of the third group member’s ( $p < .005$ ), the interaction between group and group leader influence ( $p < .001$ ), and the interaction between the group leader’s and third group member’s influence ( $p < .05$ ). Greater positive change was found in potency ratings when the third group member was high-influence than low-influence. Victims were seen as most active following the group interaction when leader influence was high, regardless of perceived group influence. Positive change in activity was also found when both group and leader

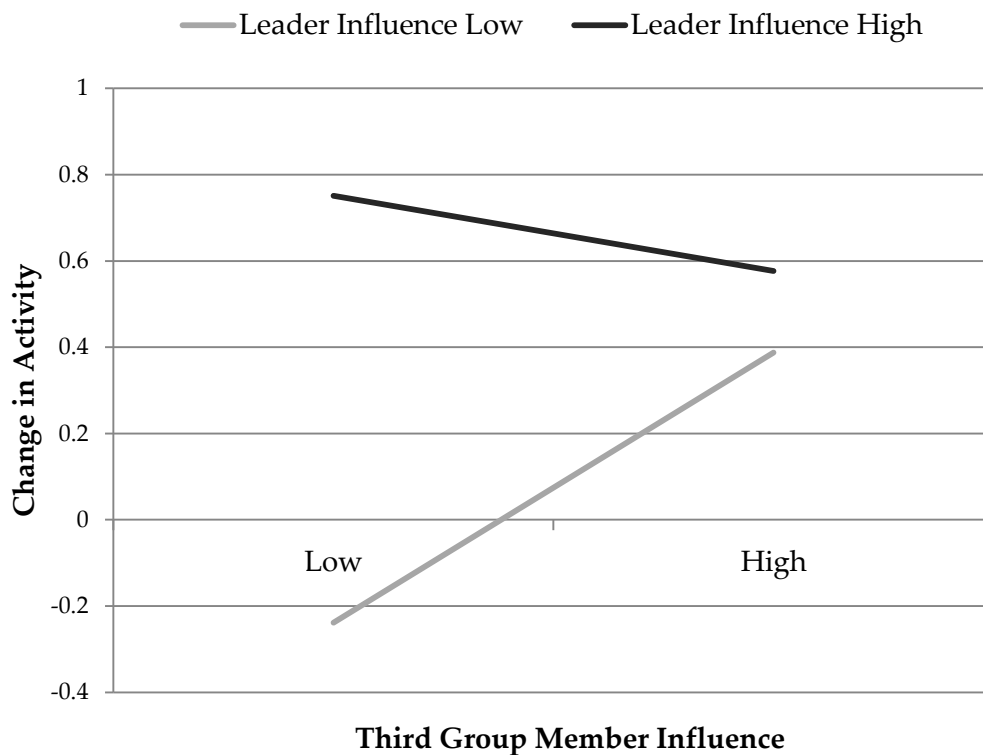
were low-influence. However, low-influence leaders paired with high-influence groups elicited a slight negative change in activity.



**Figure 5.14: Change in Activity Ratings of a 'Victim' as Predicted by the Interaction between Group and Leader Influence**

In addition, more positive change was found in the activity of the victim when the group leader was perceived as high-influence rather than low-influence (see Figure 5.15). However, low-influence group leaders elicited considerable positive change in activity when the third group member was high-influence. Slight negative change in activity was found when both the leader and the third group member were perceived as low-influence.





**Figure 5.15: Change in Activity Ratings of a 'Victim' as Predicted by the Interaction between Leader and Third Group Member Influence**

*Discussion.* The analyses presented above identify different features of the interaction as significant predictors of change in affective meanings depending upon the concept and affective dimension in question. In other words, contextual features of the interaction seem to interact differently depending upon the situated interpretation of a concept in response to the vignette and during the group interaction.

When the leader endorsed the manager, a manager was viewed as less good, less powerful, and more active, while a receptionist was viewed as less good, slightly more powerful, and more active. In this condition, the leader revealed an impression of the receptionist as a flirt in making a case for contesting the claim. As the leader's definition of the situation associated the flirt, as an actor, with malicious behavior (e.g., "the flirt

seduces the manager”), a flirt was perceived as less powerful in this condition than when the leader endorsed the receptionist. A flirt was perceived as less good and active regardless of leader attitudes; even supporting the receptionist seems to have resulted in the disparagement of the goodness and agency of a flirt, perhaps in distancing the receptionist from this derogatory label.

Analyses identified several significant predictors of change in affective meanings for the flirt identity. Greater negative change occurred in the evaluation of a flirt when weak leaders endorsed the manager, and when strong leaders endorsed the receptionist. A flirt was generally perceived as less powerful after the group interaction, except when both the group and its leader were perceived as low-influence. In addition, while a flirt was consistently perceived as less active following the group interaction, negative change in activity was greater when strong leaders supported the manager than in any other condition.

When the leader endorsed the receptionist, a receptionist was generally viewed as less good, more powerful, and slightly more active, while a manager was viewed as slightly more good, less powerful, and slightly less active. In this condition, the leader revealed an impression of the manager as a sexist in making a case for trusting the receptionist and settling the claim. As the leader’s definition of the situation associated the sexist, as an actor, with malicious behavior (e.g., “the sexist harasses the receptionist”), a sexist was perceived as less good and active but considerably more powerful in this condition than when the leader endorsed the manager.

Analyses found that respondents' evaluations of a sexist became more negative when pro-receptionist leaders lacked the support of the third group member, while becoming somewhat more positive in all other conditions. A sexist was also evaluated more negatively after the group interaction when leaders were perceived as high-influence, but more positively when leaders were perceived as low-influence. In addition, the perceived potency of a sexist generally increased with the perceived influence of the group leader, although low-influence groups with a high-influence leader elicited negative change in potency. Activity ratings of a sexist became more positive when the third group member was high-influence, but more negative when the third group member was low-influence.

The victim identity, which was never invoked by the group leader during discussion, was included in our analysis as a possible spontaneous definition of the situation by respondents, most likely applied in cases where the receptionist was favored over the manager. A victim was generally perceived as slightly less good, more powerful, and more active when the leader endorsed the receptionist than the manager. Analyses found that a victim was perceived as less good (1) in groups with a strong leader, and those with a weak leader who was supported by the third group member, and (2) when the group leader was perceived to be high-influence, regardless of the perceived influence of the group as a whole.

While victims were consistently viewed as more powerful after the group interaction, they were seen as most powerful when the group leader endorsed the receptionist, particularly when the leader was exhibited the behavioral characteristics of

a strong leader. The activity of a victim increased most (1) when the group leader was high-influence, regardless of perceived group influence, (2) when the third group member was perceived as high-influence, and (3) when low-influence group leaders were paired with a high-influence third group member.

In sum, results confirmed many of our hypotheses, although consistent effects were not always found across the concepts and affective dimensions examined. The magnitude and direction of meaning change was related, in many cases, to leader attitudes and third group member agreement, as in our earlier analyses of attitude change. Groups, leaders, and third group members perceived as high in influence tended to elicit the greatest amounts of change in meaning, often in the opposite direction of the change found when perceived influence was low. In addition, the behavioral characteristics of the leader, which were not significant in our models of attitude change, emerged as significant predictors in several models of change in affective meaning. Interestingly, when significant, leader strength interacted with leader and third group member attitudes, revealing a contingency between the behavior of the leader and the meaning change they elicited in forwarding a particular interpretation of the claim.

#### **5.2.4 Gender Attributions**

Following the group interaction, respondents were asked to report whether they believed the group leader and third group member to be male or female. While beyond the central focus of this chapter, several noteworthy effects emerged from our analyses of respondents' gender attributions. We present the results of two sets of analyses

below, which examined our conditional manipulations and respondents' emergent perceptions of social influence as predictors of gender attributions for the group leader and third group member, following the model structure established in earlier analyses.

**Table 5.6: Mixed-Effects ANOVA, Attributions of Leader's Gender (N=182)**

	Model 1	Model 2	Model 3
	<i>F</i> -value	<i>F</i> -value	<i>F</i> -value
<i>Study Condition (Fixed Effects)</i>			
Leader Strength	.07	.14	.24
Leader Attitudes	4.89*	4.69*	5.25*
Member 3 Attitudes	.12	.01	.01
Leader Strength x Leader Attitudes	4.73*	3.48	3.56
Leader Strength x Member 3 Attitudes	1.29	1.51	.96
Leader Attitudes x Member 3 Attitudes	.05	.03	.06
<i>Self-Report (Random Effects)</i>			
Perceived Group Influence		.11	.39
Perceived Leader Influence		.24	.51
Perceived Member 3 Influence		3.72+	1.23
Perceived Group x Leader Influence			.05
Perceived Group x Member 3 Influence			1.10
Perceived Leader x Member 3 Influence			1.29
R-square	.059	.081	.093
Model F	1.84	1.70	1.45

*Note.* Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Leader attitudes were significantly related to respondents' attributions of the group leader's gender in all three models (see Table 5.6). Respondents were more likely to believe that the group leader was female when the leader endorsed the receptionist rather than the manager ( $p < .05$ ). In addition, Model 1 identified a significant interaction between leader strength and leader attitudes ( $p < .05$ ). Respondents were especially likely to believe that strong leaders were female when they endorsed the receptionist, while believing strong leaders who endorsed the manager to be male; weak leaders were likely

to be perceived as female regardless of their expressed attitudes. Although marginal, the perceived influence of the third group member was also related to attributions of leader gender in Model 2 ( $p < .06$ ). Respondents were more likely to believe the group leader was male when the third group member agreed with their opinion, but were more likely to believe the leader was female when the third group member disagreed.

Leader attitudes were significantly related to respondents' attributions of the gender of the third group member in all three models (see Table 5.7). However, in contrast with the findings discussed above, the third group member was more likely to be perceived as female when the leader endorsed the manager, and male when the leader endorsed the receptionist ( $p < .05$ ). In addition, a highly significant interaction between leader and third group member attitudes in all three models suggests that group consensus was important in determining respondents' perceptions of the third group member's gender ( $p < .001$ ). When the leader supported the receptionist, the third group member was more likely to be perceived as female when they agreed with the leader, and male when they disagreed. Similarly, the third group member was more likely to be perceived as male when they agreed with a pro-manager leader, but female when they disagreed.

Model 3 identified two additional effects of perceived influence on gender attributions for the third group member. First, the third group member was more likely to be perceived as male when the group leader was high-influence, but was more likely to be perceived as female when the leader was low-influence ( $p < .05$ ). Second, the third group member was more likely to be perceived as male in low-influence groups,

regardless of leader strength, and in high-influence groups with low-influence leaders ( $p < .05$ ). Interestingly, they were more likely to be perceived as female in high-influence groups with high-influence leaders. Thus, gender attributions for both the manager and the third group member were linked to both the attitudes expressed during the group interaction and the social influence composition of the group.

**Table 5.7: Mixed-Effects ANOVA, Attributions of Third Member's Gender (N=182)**

	Model 1	Model 2	Model 3
	<i>F</i> -value	<i>F</i> -value	<i>F</i> -value
<i>Study Condition (Fixed Effects)</i>			
Leader Strength	1.39	1.48	1.01
Leader Attitudes	4.64*	4.50*	4.47*
Member 3 Attitudes	.27	.15	.23
Leader Strength x Leader Attitudes	.54	.37	.32
Leader Strength x Member 3 Attitudes	.67	.60	.27
Leader Attitudes x Member 3 Attitudes	37.51***	35.36***	38.12***
<i>Self-Report (Random Effects)</i>			
Perceived Group Influence		.03	2.23
Perceived Leader Influence		.14	5.86*
Perceived Member 3 Influence		.29	.24
Perceived Group x Leader Influence			5.01*
Perceived Group x Member 3 Influence			.09
Perceived Leader x Member 3 Influence			1.45
R-square	.202	.205	.242
Model F	7.42***	4.95***	4.53***

*Note.* Significant differences are noted as follows: †  $p < .06$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

### 5.3 Summary and Conclusions

In sum, the results of our analyses of attitude change broadly replicate the influence effects found by Friedkin and colleagues (e.g., Friedkin 1999, Friedkin and Johnsen 1999), while using the assigned status structures that are new to our study. This suggests that group members' established initial status is important to their contribution

to attitude and sentiment change, but that group members' emergent social influence, which was not explained by the initial status structure of the group, contributes additional explanatory value. Specifically, we found that assigned group leaders were influential in instigating change in respondents' task-related attitudes the direction of the attitudes expressed by the leader, particularly when supported by the third group member. Above and beyond these conditional effects, groups and group leaders that were perceived as highly influential elicited greater attitude change than those perceived as low-influence.

Comparable effects were found in our analyses of change in affective meaning. However, many of these analyses did not have strong model fit, and the significant effects were inconsistent across identities and affective dimensions. In part, this may be explained by the comparatively small number of respondents in our analyses of meaning change as compared to our analyses of attitude change. As mentioned above, the affective meaning data of 60 respondents was not properly recorded because of a software malfunction. Another potential limitation of our research has to do with the irregular distribution of our measure of attitude change for the resolution of the claim. While the general consistency in findings across models using two distinct measures of attitude change suggests that our findings are reliable, a more regular distribution in our measure of claim resolution could have been achieved by having respondents rate the strength of their preference for the chosen resolution.



## 6. General Discussion

Affect control theory regards cultural sentiments – the affective meanings that people hold for various identities, traits, and behaviors – as societally bound, based on consensual and widely shared sentiments, and stable over long periods of time. In Chapter 2, we made a case that cultural sentiments should instead be thought of as dynamic and structurally contingent, being linked to one’s social position and patterns of social connectedness. We further proposed that influence processes operating within social networks may be an important mechanism by which we arrive at social consensus regarding normative sentiments and through which meanings can change over time.

The findings presented in Chapter 4 offer support for Heise’s (2010) statement and our contention that mean affective ratings are insufficiently nuanced to represent variation in the cultural sentiments of a society, particularly a society as heterogeneous in composition as the United States. Analyses identified aspects of respondents’ socio-demographic characteristics, social position, and patterns of social connectedness as significant predictors of their inculcation and commonality in affective meaning. Certain features of respondents’ experiences in close relationships were also significant predictors of enculturation, supporting the hypotheses of Thomas and Heise (1995). Even so, recent work by affect control theorists has shown considerable stability in the *mechanisms* of impression change, meaning that people tend to apply common processes to defining situations, even though they may sometimes attach discrepant meanings to the actors, behaviors, or objects in that situation (Rogers et al. 2013).

Chapter 5 introduced social influence processes as a potential mechanism by which group consensus occurs, with regard to both task-related attitudes and affective meanings. Results indicated that even when status-bearing roles were assigned prior to the task, group leaders carried sufficient social influence to elicit change in respondent attitudes, in the direction of the attitudes expressed by the group leader. The agreement of a third group member additionally contributed to attitude change. Beyond the effects of our conditional manipulations, respondents' emergent perceptions of the group's social influence composition were important predictors of attitude change. Comparable effects were found in our analyses of affective meaning change, although the significant effects were inconsistent across identities and affective dimensions.

In sum, our results identify structural sources of normative differentiation and consensus, and introduce social networks methodologies as a means of elaborating affect control theory's explanatory model. More broadly, the findings generated by this project contribute to an ongoing academic discussion on the origins of cultural content, exploring the complex and dynamic relationship between patterns of social interaction and cultural affective meaning. A collaborative manuscript in preparation indicates the stability of key mechanisms of impression formation over time, and examines individual differences in impression formation and change (Rogers et al. 2013).

Other research in progress extends the findings presented in this dissertation in two main directions. First, through a series of analyses that examine the predictors of clustering in affective meaning, we develop the findings presented in Chapter 4 and offer a follow-up study to Thomas and Heise (1995). This research uses a Euclidean

distance matrix to characterize each respondent's pattern of affective responding across stimuli, then identifies similarities in respondents' broader meaning structures through hierarchical cluster analysis of the distance matrix. Afterward, the resulting clusters are compared on the basis of respondent attributes (i.e., the five sets of predictor variables detailed in Chapter 4) using multinomial logistic regression.

Preliminary results suggest that clusters comprised of respondents with higher status social positions as measured by parental education, employment, and home ownership have more clearly differentiated sentiments than those with positions of lower status, and suggest that cluster membership is predicted by respondents' overall number of social ties and number of ties to the highest prestige position accessed. Interestingly, as the differentiation of an individual's affective meanings for various identities increases, the differentiation between individuals in their affective meanings for a single identity seems to increase as well. In other words, while increased social position and connectedness can contribute our understanding of the distribution of identities in social space, we seem to be better informed about the concepts housed within regions of social space to which we are particularly well-connected.

A second study in progress, in collaboration with Tobias Schröder and Brent Curdy, will extend the research presented in Chapter 5, exploring how values, self, and identity condition the effects of social influence on decision-making. An extensive body of research has established that individuals seek to maximize the satisfaction of constraints associated with semantic representations of actions, the situation, other people, and the self, striving for general emotional coherence (Heise 2007, Thagard

2006). However, while evidence is abundant for the relevance of emotionally grounded meaning structures in explaining behavior, much less is known about how these conceptual structures become established and transformed through communication in social networks.

Measuring meaning change during a simulated episode of communication, we explore the role of global and local values in shaping meaning, and examine how conceptual representations of the self and important social contacts may condition meaning change. The research includes 200 respondents, recruited through Amazon's Mechanical Turk website, who will participate in an experimental study via Qualtrics. We hope that this work will develop our understanding of the multi-level interactions between the mental representations of individuals and the creation, maintenance, and transformation of meaning in societies.

Our central hypotheses are as follows: At the individual level, meanings change as a result of communication, where one person (the sender) activates certain mental representations in another person (the receiver) and these activations result in a (partial) reconfiguration of the receiver's conceptual networks. Basic constraints on this process are provided by the current semantic structures of (1) the concept in question, (2) one's conceptual representation of the self, and (3) one's conceptual representation of the sender. Further constraints result from the emotional value of concepts in one's mental representation, which biases the ways in which one perceives new information. Thus, at the group or societal level, meaning change is conceptualized as the product of multiple episodes of successful individual-level persuasion that spreads through social networks.

In addition to testing the hypotheses outlined above, study data will be used for several purposes: (1) to map the meaning transfer process using neural network models that simulate learning, (2) to compare cognitive-affective maps for endorsers and causes, (3) to run latent semantic analysis exploring the relationship between self-statements and social causes, and (4) to examine the predictive capacity of current models of affective responses to persuasive messages.

## Appendix A. Concepts in Affective Meaning Measure

### ***A.1 Social Identities***

Villain	Grandparent	Psychiatrist
Divorcé	Senior Citizen	Computer Expert
Politician	Gunman	Prostitute
Slut	Hero	Bore
Buddy	Underachiever	Schoolgirl
Bully	Patient	Ex-Wife
Idiot	Librarian	Foster Child
Businessman	Judge	Racist
Conservative	Alcoholic	Womanizer
Child	Parolee	Pest
Victim	Traitor	Fiancée
Brat	Priest	Sweetheart
Troublemaker	Enemy	Teammate
Abortionist	Little Brother	Trainee
Ex-Husband	Handicapped Person	Failure
Criminal	Old Timer	Undergraduate
Scientist	Sister	State Trooper
Teenager	Tutor	Introvert
Gangster	Jerk	Winner
Toddler	Physician	Unemployed Person
Little Sister	Mistress	Youngster

### ***A.2 Self Identities***

Myself as I really am  
Myself as others see me  
Myself as I would like to be  
Myself as others would like me to be

## Appendix B. Position Generators

### ***B.1 University Position Generator***

We would like to ask you some questions about your social ties to different members of the [university name] community. For each of the following questions, please indicate how many of this type of person you are acquainted with. You can consider yourself acquainted with someone if the person knows you well enough to remember your name and either of you could strike up a conversation if you ran into each other around campus. (Include acquaintances, friends, relatives, and co-workers).

Afterward, you will be asked indicate how many of this type of person you are close with. This includes your good friends, people you discuss important matters with or trust for advice. Some of these questions may seem unusual but they are an important way to help us understand more about [university name] students' social relationships. Please answer the questions as best you can.

For each of the groups listed below, two questions were asked:

1. How many people are you acquainted with that are...? \_\_\_\_\_
2. Of these people, how many are you close with? \_\_\_\_\_

The president, the provost, or a dean

An assistant or associate dean, program director, or department chair

A student support professional (student affairs, counseling, women's center)

Other university administrator or professional staff (housing, admissions, development)

Other than your class instructors, a faculty member in:

    The humanities

    The social sciences

    The natural sciences/mathematics

    Engineering

An athletics coach, assistant coach, or athletic official

Medical Center faculty or staff (*private university only*)

Law or business school faculty or staff

Some other staff member (clerical, housekeeping, dining services)

Graduate/professional student

A residential advisor other than your own

An upper-class student (junior/senior)

## ***B.2 Societal Position Generator***

Now we would like to ask you some questions about your social ties to different types of people from outside the [university name] community. As before, please indicate how many of this type of person you are acquainted with. You can consider yourself acquainted with someone if the person knows you well enough to remember your name and either of you could strike up a conversation if you ran into each other around campus. (Include acquaintances, friends, relatives, and co-workers).

Afterward, you will be asked indicate how many of this type of person you are close with. This includes your good friends, people you discuss important matters with or trust for advice. Please answer the questions as best you can.

For each of the groups listed below, two questions were asked:

1. How many people are you acquainted with that are...? \_\_\_\_\_
2. Of these people, how many are you close with? \_\_\_\_\_

A hotel bellboy  
A nurse  
The CEO of a big company  
A writer  
A receptionist  
A farmer  
A computer programmer  
A lawyer  
A middle school teacher  
A full-time babysitter  
A janitor  
A personnel manager  
An administrative assistant in a large company  
A policeman  
A hairdresser  
A bookkeeper  
A security guard  
A production manager  
An operator in a factory  
A congressman  
A taxi driver  
A person from the [city name] community  
A person who is very liberal  
A person who is very conservative  
A person who is currently unemployed



A person who owns a second home  
A person who is currently in state/federal prison  
A person who is Caucasian  
A person who is Asian or Asian-American  
A person who is Black or African-American  
A Hispanic man or woman  
A gay man or woman  
A person who is currently serving in the armed forces  
A person who rarely or never attends religious services  
A person who attends religious services on a regular basis  
An unmarried woman living with a man in a romantic relationship

## Appendix C. Network Composition

1. Regarding race, which best describes your friends at [university name]?

All or nearly all not your race

Mostly not your race

Half your race and half not your race

Mostly your race

All or nearly all your race

2. Regarding class year, which best describes your friends at [university name]?

All or nearly all not your class year

Mostly not your class year

Half your class year and half not your class year

Mostly your class year

All or nearly all your class year

3. Regarding academic major, which best describes your friends at [university name]?

All or nearly all not your major

Mostly not your major

Half your major and half not your major

Mostly your major

All or nearly all your major

4. Are you a member of any of the following [university name] groups or organizations?

(Check all that apply.)

Member (or in the process of becoming a member) of a sorority or fraternity

Religious club or association

Cultural or ethnic club or association

Community service club or association

Student government

School newspaper or magazine

Intramural athletic team or club

Intercollegiate athletic team

Selective living group

Other (please specify) \_\_\_\_\_

## Appendix D. Experiences in Close Relationships

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Slightly	Neither Agree nor Disagree	Agree Slightly	Agree	Strongly Agree

1. It helps to turn to my romantic partner in times of need.
2. I need a lot of reassurance that I am loved by my partner.
3. I want to get close to my partner, but I keep pulling back.
4. I find that my partner(s) don't want to get as close as I would like.
5. I turn to my partner for many things, including comfort and reassurance.
6. My desire to be very close sometimes scares people away.
7. I try to avoid getting too close to my partner.
8. I do not often worry about being abandoned.
9. I usually discuss my problems and concerns with my partner.
10. I get frustrated if romantic partners are not available when I need them.
11. I am nervous when partners get too close to me.
12. I worry that romantic partners won't care about me as much as I care about them.

## Appendix E. Parent-Child Interactions

For each of the following questions, please reflect on your experiences growing up, and your childhood interactions with your parents. Respond to each statement by indicating how typical this was of your childhood experience.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

1. How often did one or both of your parents praise you by saying something like “Good for you!” or “What a nice thing you did!”?
2. How often did one or both of your parents spend time playing with you, focusing attention on you for five minutes or more, just for fun?
3. How often did you spend time laughing together with one or both of your parents?
4. How often did one or both of your parents do something special with you that you enjoyed?
5. How often did one or both of your parents get annoyed with you for saying or doing you were not supposed to do?
6. How often did one or both of your parents tell you that you were bad or not as good as others?
7. How often did one or both of your parents raise their voice, scold or yell at you when you broke the rules or did things that you were not supposed to do?
8. How often did one or both of your parents use physical punishment when you broke the rules or did things that you were not supposed to do?
9. How often did one or both of your parents get angry when they punished you?
10. How often did one or both of your parents let you get away with things that should have been punished?
11. How often were you able to get out of a punishment when you really set your mind to it?
12. How often, when disciplined by one or both of your parents, would you ignore the punishment?
13. When you broke the rules or did things you were not supposed to do, how often would one or both of your parents ignore it and do nothing?

## Appendix F. Demographics and Social Position

We would like to ask you a few final questions about yourself and your participation in today's study. Please read each question carefully and write your response in the space provided.

1. What is your age? \_\_\_\_\_
2. What is your gender?  
Male  
Female
3. What is your race? Select one or more of the following.  
White/Caucasian  
Black/African-American  
East/South Asian  
American Indian/Alaskan Native  
Pacific Islander/Hawaiian Native  
Other \_\_\_\_\_
4. Are you of Hispanic origin?  
Yes  
No
5. What is your year in school?  
First-Year/Freshman  
Second-Year/Sophomore  
Third-Year/Junior  
Fourth-Year/Senior  
Other \_\_\_\_\_
6. What is your parents' current marital status?  
Married  
Separated  
Divorced, but neither parent has remarried  
Divorced, and one or both parents have remarried  
Never married  
Other \_\_\_\_\_
7. What is the highest level of education your mother has attained?  
Did not graduate high school  
High school graduate  
Some college/vocational school  
Bachelor's degree  
Master's degree  
Law degree (e.g., LLB, JD)

Medical degree (e.g., MD, DDS, DVM)  
Business degree (e.g. MBA, CPA)  
Doctoral degree  
Other \_\_\_\_\_

8. What is the highest level of education your father has attained?

Did not graduate high school  
High school graduate  
Some college/vocational school  
Bachelor's degree  
Master's degree  
Law degree (e.g., LLB, JD)  
Medical degree (e.g., MD, DDS, DVM)  
Business degree (e.g. MBA, CPA)  
Doctoral degree  
Other \_\_\_\_\_

9. Which of the following best describes your mother's current employment status?

Working full-time for pay (30 or more hours per week)  
Working part-time for pay (less than 30 hours per week)  
Unemployed or looking for a job  
Not working  
Unable to work or disabled  
Other \_\_\_\_\_

10. Which of the following best describes your father's current employment status?

Working full-time for pay (30 or more hours per week)  
Working part-time for pay (less than 30 hours per week)  
Unemployed or looking for a job  
Not working  
Unable to work or disabled  
Other \_\_\_\_\_

11. Does one or more of your parents own their own home?

Yes  
No

12. Does one or more of your parents own a second home?

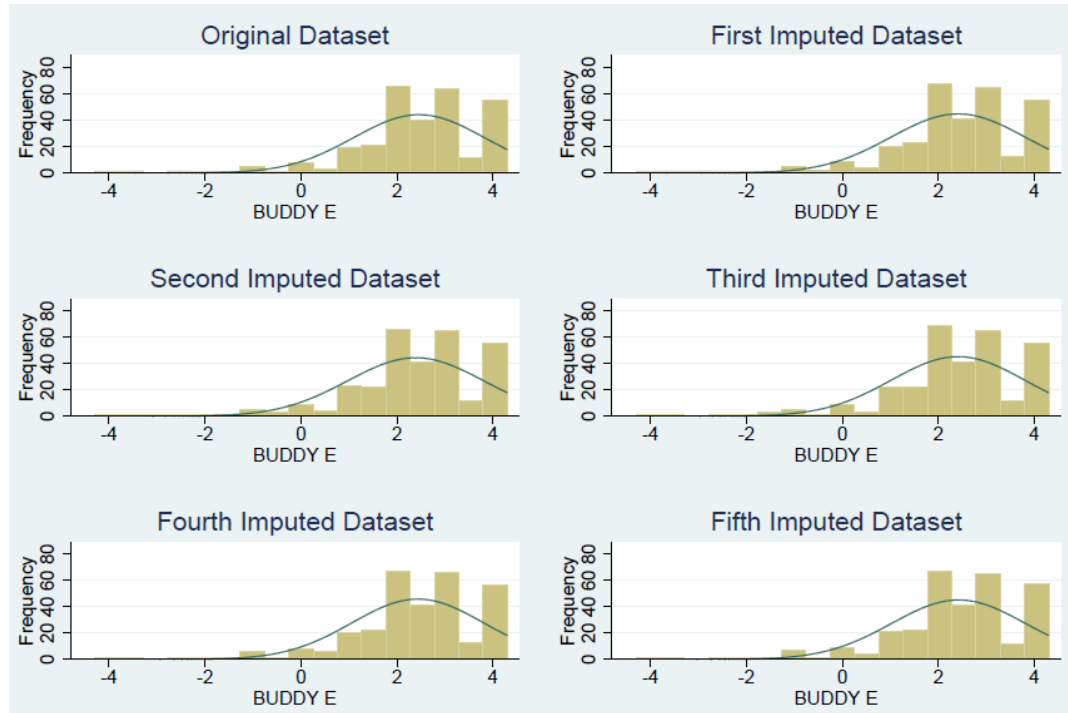
Yes  
No

14. Does one or more of your parents own a business?

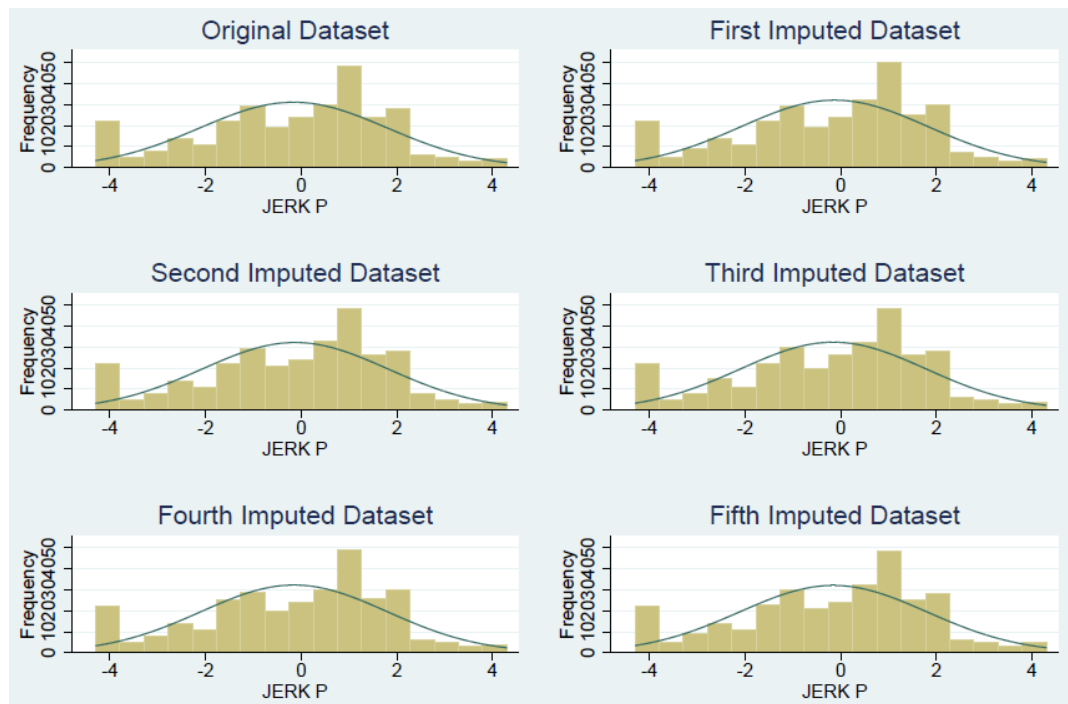
Yes  
No

## Appendix G. Illustrative Histograms for Imputed Data

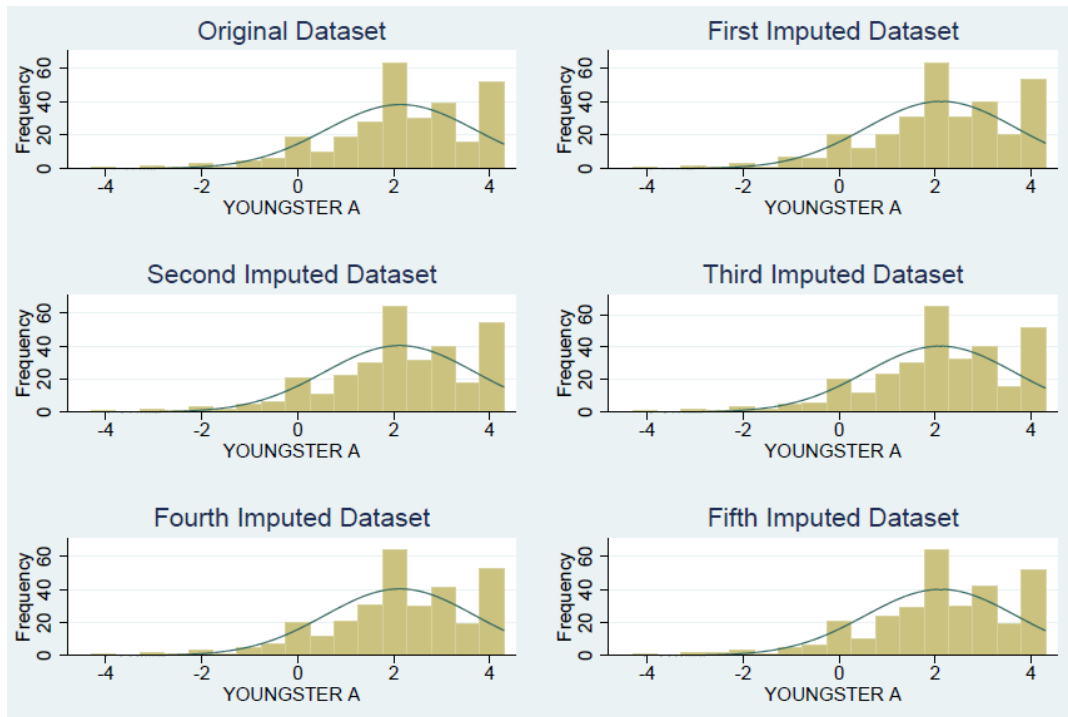
### G.1 Illustrative Histograms for Evaluation Ratings of 'Buddy'



### G.2 Illustrative Histograms for Potency Ratings of 'Jerk'



### G.3 Illustrative Histograms for Activity Ratings of 'Youngster'



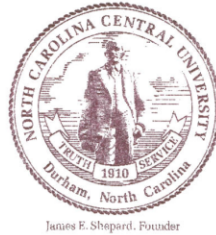


# Appendix H. IRB Approval, Survey Research

**Duke University**  
**Institutional Review Board for the Protection of Human Subjects**  
**FWA No. 0000265**  
**Notice of Protocol Approval**

Investigator(s): Kimberly Rogers (Student),  
Deborah Lynn Smith-Lovin (Advisor)  
Protocol Title: Affect Control and Social Networks  
Protocol Number: 2931  
Approval Date: Tuesday, September 29, 2009  
Expiration Date: Friday, August 16, 2013 (Renewed)  
Sponsor: None

Please note: Approval is contingent upon maintaining certification to conduct research with human subjects.



Institutional Review Board

Friday, January 22, 2010

Dr. Li-An Yeh  
Interim Chair, Institutional Review Board  
North Carolina Central University

Ms. Kimberly Rogers,  
Principal Investigator

Dear Ms. Rogers:

As required by University policy the Institutional Review Board (IRB) has given your protocol for a project, entitled, "Affect Control and Social Networks" a review. Because we have determined that the activities described in this application meet current criteria for research that is exempt from federal regulations governing human participants, your project is not subject to the requirement for continuing review or documentation of informed consent. No further action is required as long as research procedures described in this application remain the same.

Your IRB approval number is 1200929.

## Appendix I. Pretest, Leadership Assessment Instrument

For each of the items listed below, consider how much the statement characterizes your own behaviors, thoughts, intentions, or skills when working in groups. Then, indicate how often you demonstrate these behaviors according to the following scale: 1=*never*, 2=*rarely*, 3=*sometimes*, 4=*often*, 5=*always*. Please rate how you believe that you actually are, not how you think you should be.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

1. I prioritize tasks when faced with limited time and/or resources.
2. I follow through on every commitment I make.
3. I steer through ambiguity and 'information clutter' to resolve complex problems.
4. I sort out alternatives by 'winging it'.
5. I make connections that reveal key issues, problems, or opportunities.
6. I emphasize positive features of situations even after setbacks or when facing huge obstacles.
7. I find a way to 'get it done' and will sacrifice personally to achieve a goal.
8. I am receptive to new ideas of others and try to improve or enhance them in a non-threatening manner.
9. I ask questions to try to piece together 'unrelated' information, events, etc.
10. I take into account the potential implications of a decision, before moving forward.
11. I accept a problem at face value, even though there may be less obvious underlying factors driving the problem.
12. I consider the feelings of others before taking action.
13. I strive for ambitious goals, rather than for easy achievable results.
14. I treat different people differently, with the appropriate amount of candor, depending on each individual's unique makeup.
15. I emphasize individual responsibility rather than building teams.

## Appendix J. Pre-Interaction Affective Meanings

Please indicate your personal feelings about each type of person listed by answering three questions:

- (1) How good is this type of person?
- (2) How powerful is this type of person?
- (3) How active is this type of person?

For each item that follows, your responses to these three questions can range from bad/awful to good/nice, powerless/little to powerful/big, and slow/quiet/inactive to fast/loud/active. Please mark the box on each scale that best represents your personal feelings about the type of person listed.

Receptionist

Manager

Flirt

Sexist

Victim

Leader

Employee

Subordinate

Myself as I really am

Myself as others see me

## **Appendix K. Vignette and Pre-Interaction Attitudes**

A female employee of the company where you work is alleging that she has been sexually harassed by her departmental manager. As a result of the alleged harassment, she has threatened to file a lawsuit against the company. The discussion group that you will join momentarily has been called by the company to evaluate the merit of her claim and decide what action should be taken to deal with this issue – settling the claim out of court or fighting the charges in court.

The employee alleging harassment has worked for the company for just under 2 years as a receptionist, and has generally been a conscientious, hard worker. However, she has a reputation for being somewhat flirtatious and prone to gossip. While her performance on job tasks has never been called into question, she has been reprimanded on 2 prior occasions for the manner in which she interacts with her coworkers. Nonetheless, the evaluations in her file indicate that she has been dependable and competent as an employee, recommending her for promotion when she reaches her two-year anniversary with the company.

The manager she has accused of harassment has been with the company for 5 years. He has worked his way up through the ranks from an hourly employee to a shift supervisor and, just this year, has been promoted to departmental manager. While he is known around the office as somewhat arrogant and bossy, he is extremely hardworking and committed to his job, and has proved himself to be a capable and earnest worker. Employees have occasionally complained that he is too strict or his policies are unfair but, prior to the current incident, the evaluations in his file indicate that upper management has found him to be responsible and appropriate.

1. Prior to discussing the issue with your group, what is your opinion about the honesty of the receptionist's claim?

1	2	3	4	5	6	7	8	9	10	11
The claim is truthful					Neutral			The claim is <u>not</u> truthful		

2. Prior to discussing the issue with your group, what is your opinion on what action the company should take in responding to this claim?

Settle the claim out of court

Fight the charges in court

Other (please specify) \_\_\_\_\_

## Appendix L. Post-Interaction Attitudes

1. During the group discussion, we asked you to come to a group consensus about two issues. Did your group reach a consensus on the honesty of the receptionist's claim?

Yes, the group reached a consensus      No, the group did not reach consensus

2. What was your group's final decision about the honesty of the receptionist's claim?

1      2      3      4      5      6      7      8      9      10      11

The claim is  
truthful

Neutral

The claim is  
not truthful

3. What was your personal belief about the honesty of the receptionist's claim?

1      2      3      4      5      6      7      8      9      10      11

The claim is  
truthful

Neutral

The claim is  
not truthful

4. What was your group's final decision on what action the company should take in responding to this claim?

Settle the claim out of court

Fight the charges in court

Other (please specify) \_\_\_\_\_

5. What was your personal belief on what action the company should take in responding to this claim?

Settle the claim out of court

Fight the charges in court

Other (please specify) \_\_\_\_\_

6. Based on your experiences during the group discussion, do you think that the Group Leader was male or female?

Male Female

7. Based on your experiences during the group discussion, do you think that the other Group Member was male or female?

Male Female

8. How would you describe the Group Leader's behavior during the discussion? Select ALL the characteristics that apply.

Hardworking Passionate Submissive Ambitious Apprehensive  
Inhibited Imaginative Dependent Conscientious Cooperative

9. How would you describe your own behavior as a Group Member? Select ALL the characteristics that apply.

Hardworking Passionate Submissive Ambitious Apprehensive  
Inhibited Imaginative Dependent Conscientious Cooperative

## Appendix M. Post-Interaction Affective Meanings

Please indicate your personal feelings about each type of person listed by answering three questions:

- (1) How good is this type of person?
- (2) How powerful is this type of person?
- (3) How active is this type of person?

For each item that follows, your responses to these three questions can range from bad/awful to good/nice, powerless/little to powerful/big, and slow/quiet/inactive to fast/loud/active. Please mark the box on each scale that best represents your personal feelings about the type of person listed.

Receptionist

Manager

Flirt

Sexist

Victim

Myself as an employee

My partner as a leader



## **Appendix N. Social Influence Measure**

### ***N.1 Self vs. Other Influence***

You have been given a total of 20 chips, each of which represents influence upon your final opinion at the end of the deliberation group. Divide the chips into two piles, Pile A and Pile B. Pile A will represent the extent to which your interactions with the group influenced your opinion. Pile B will represent the extent to which your interactions with the group did not influence your opinion.

Once you have finished this task, please record the number of chips you have assigned to each pile. Remember, since you only have 20 chips to work with, the numbers you write for these two answers must add up to 20.

1. To what extent did your interactions with the group influence your opinion? Write the number of chips (out of 20) that you sorted into Pile A. \_\_\_\_\_
2. To what extent did your interactions with the group NOT influence your opinion? Write the number of chips (out of 20) that you sorted into Pile B. \_\_\_\_\_

### ***N.2 Leader vs. Third Group Member Influence***

Now consider the extent to which you feel each member of the group influenced your final opinion. Divide the chips from Pile A (those representing the amount that interactions with the group influenced your opinion), into piles for the Group Leader and the other Group Member according to how much each influenced your opinion. Remember, the numbers you write for these two answers must add up to the number of chips in Pile A.

1. To what extent did the Group Leader influence your opinion? Write the number of chips from Pile A that you sorted into this pile. \_\_\_\_\_
2. To what extent did the other Group Member influence your opinion? Write the number of chips from Pile A that you sorted into this pile. \_\_\_\_\_

## **Appendix O. IRB Approval, Experimental Research**

**Duke University  
Institutional Review Board for the Protection of Human Subjects  
FWA No. 00000265  
Notice of Protocol Approval**

Investigator(s): Kimberly Rogers (Student),  
Deborah Lynn Smith-Lovin (Advisor)  
Protocol Title: Affect Control and Social Influence  
Protocol Number: 2881  
Approval Date: Tuesday, September 01, 2009  
Expiration Date: Sunday, September 01, 2013 (Renewed)  
Sponsor: None

Please note: Approval is contingent upon maintaining certification to conduct research with human subjects.

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## Biography

Kimberly B. Rogers was born on August 29, 1981 in Richmond, Virginia. She graduated cum laude from Randolph-Macon Woman's College in May 2003, receiving a Bachelor of Arts in Psychology with minors in History and Sociology/Anthropology. She received a Master of Arts in Psychology from Wake Forest University in May 2005, and a Master of Arts in Sociology from Duke University in September 2008. She will receive her PhD in Sociology from Duke University in May 2013, with Certificates in College Teaching and East Asian Studies.

Kimberly co-authored a chapter with Lynn Smith-Lovin entitled "Action, Interaction, and Groups," which was published in *The Wiley-Blackwell Companion to Sociology* in 2012. She co-authored a commentary with Lynn Smith-Lovin entitled "Answering the Call for a Sociological Perspective on the Multi-Level Social Construction of Emotion," published at *Emotion Review* in 2012. Her commentary "Bridging Emotion Research: From Biology to Social Structure," co-authored with Liam Kavanagh, was published at *Social Psychology Quarterly* in 2010. She also co-authored an article with Timothy Sturgeon, Gary Gereffi, and Karina Stark-Fernandez, entitled "Prospects for Mexico in the North American Automotive Industry: A Global Value Chain Perspective," published at *Actes du GERPISA* in 2010.

Kimberly has several additional manuscripts in process. She co-authored a chapter entitled "Emotions and Affect" with Steven Foy, Robert Freeland, Andrew Miles, and Lynn Smith-Lovin, which is forthcoming in the *Handbook of the Social Psychology of Inequality*. Her article "The Affective Structure of Stereotype Content:

Behavior and Emotion in Intergroup Context,” co-authored with Tobias Schröder and Wolfgang Scholl, is forthcoming at *Social Psychology Quarterly*. She co-authored an article entitled “Dissecting the Sociality of Emotion: A Multi-Level Approach” with Tobias Schröder and Christian Von Scheve, which is forthcoming at *Emotion Review*. Her article “Affective Meanings of Social Groups in Cross-Cultural Comparison,” co-authored with Tobias Schröder, Julija Mell, Shuuichiro Ike, and Wolfgang Scholl, is conditionally accepted at *Group Processes and Intergroup Relations*.

Kimberly has received several grants and awards in financial support of her research. She was awarded the Duke Sociology Department’s annual Tiryakian Award for collaborative research with a faculty mentor, and both a Pre-Dissertation Research Fellowship and a Summer Research Fellowship from the Duke Graduate School. Most notably, Kimberly received a Doctoral Dissertation Research Improvement Grant from the National Science Foundation, covering the costs of her dissertation project. She also received numerous small grants for the payment of study respondents from the Duke Interdisciplinary Initiative in Social Psychology and the Linda K. George Research Fund.

Kimberly received a Foreign Language and Area Studies academic year fellowship, for the study of Japanese language and culture. She has also received recognition for her teaching, including the Excellence in Graduate Teaching Award from the Duke University Department of Sociology, and the Anne T. and Robert M. Bass Fellowship for Undergraduate Instruction, for merit in instructorship and course development.