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Structures of Sentiment: Mapping the Affective Bases of Social Relationships in Yasawa, Fiji

Author
Gervais, Matthew M

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Structures of Sentiment:

Mapping the Affective Bases of Social Relationships

in Yasawa, Fiji

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Anthropology

by

Matthew Michel Gervais

2013

ABSTRACT OF THE DISSERTATION

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Doctor of Philosophy in Anthropology

University of California, Los Angeles, 2013

Professor Daniel Fessler, Chair

Enduring social relationships structured the emergence of human uniqueness and remain the cornerstone of human adaptation across societies. However, there is little systematic comparative data on the patterning of human relationships and the psychological mechanisms underlying their variation. The present research develops a theoretical framework for the functional organization of affect as it regulates social-relational behavior, and tests implications of this framework with quantitative data from 20 months of fieldwork in Yasawa, Fiji. Chapter 1 uses "contempt" as a case study to develop the ASE (Attitude-Scenario-Emotion) model of affect, in which a*ttitudes*, as enduring representations of the fitness affordances of other persons, adaptively moderate constellations of *emotions* as embodied reactions to relational events. I sketch five attitude dimensions that map onto distinct social affordances: *love*, *like*, *respect*, *hate*, and *fear*.

Decomposing “contempt” in these terms, the core of this cultural model is not a basic or uniquely human emotion but an ancient attitude of *no respect* and its emotional consequences. This account resolves the “special case” of contempt. Chapter 2 presents a series of interviews that investigate the conceptual structure of the Yasawan affect lexicon. Results suggest that Yasawans use distinct sets of terms to refer to attitudes and emotions; the predicted set of social attitudes anchor the conceptual organization of Yasawan affect; these attitudes differentially and adaptively moderate emotions across social scenarios; and each attitude is emotionally pluripotent. Chapter 3 investigates dyadic social attitudes and relational behaviors within the male social network of one Yasawan village. I describe three relational economic games that integrate recipient identities and other-other tradeoffs while maintaining decision confidentiality. Target need and “chiefliness” drive receiving and buffer against being taken from, while target income drives being reduced at a cost. Attitudes towards targets fully mediate receipt and loss, but not suffering spiteful reduction. These games tap the egalitarian ethos of Fiji, while illuminating the roles of endogenous attitudes and impersonal inequity aversion in structuring Fijian hierarchy. Together these studies advance the comparative endeavor to describe and explain, ultimately and proximately, variation in social relationships as they structure and support human adaptation.

The dissertation of Matthew Michel Gervais is approved.

H. Clark Barrett

Alan P. Fiske

Kerri L. Johnson

Daniel Fessler, Committee Chair

University of California, Los Angeles

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CURRICULUM VITA

Matthew M. Gervais received his BS in Psychobiology, Anthropology, and Philosophy *summa cum laude* from SUNY Binghamton in 2006, and his MA in Biological Anthropology from UCLA in 2008. His research focuses on the evolution of human social relationships and their proximate bases, employing mixed methods from cognitive anthropology, behavioral ecology, social psychology, and experimental economics. He has published on the forms, functions, and phylogeny of emotions, strategic behavior in subclinical psychopathy, and interpersonal interaction and evaluation, in such journals as the Quarterly Review of Biology, Proceedings of the Royal Society – Biology, Human Behavior and Evolution, and PLoS-ONE. He has also presented his research at meetings of the American Anthropological Association, the Human Behavior and Evolution Society, the Society for Personality and Social Psychology, and the International Society for Human Ethology. He is an aspiring ethnographic photographer, and was awarded a Top Selection at the 2012 meeting of the American Anthropological Association for a photograph of Yasawa, Fiji. In September 2013, he will take up residence as a Junior Research Fellow at the SAGE Center for the Study of the Mind at UC Santa Barbara. He has organized an Evolutionary Anthropology Society session for the 2013 American Anthropological Association meeting that will focus on the synergies to be had by moving "beyond anonymous games".

INTRODUCTION

1. Social Relationships in Human Evolution

Describing and explaining human uniqueness is the central project of the evolutionary human sciences (Hrdy 2009; Pinker 2010; Bowles & Gintis 2011; Boyd et al. 2011; Boehm 2012; Tomasello et al. 2012; Whiten & Erdal 2012). Altruism among strangers has featured prominently in all such discussions as both difficult to explain and integral to large-scale collective action and other Holocene institutions (Fehr & Henrich 2003; Henrich et al. 2010a; Bowles & Gintis 2011; Mathew & Boyd 2011). Less prominently discussed is the role of enduring social relationships in the origin and modern manifestations of human uniqueness.

Enduring social relationships were the crade of human cooperation and culture, which arose in the context of face-to-face communities tens if not hundreds of thousands of years before the agricultural revolution, in the form of egalitarianism (Boehm 1999), cooperative large-game hunting (Stiner et al. 2002), pair bonding (Chapais 2009; Hrdy 2009), large social networks of non-kin (Hill et al. 2011), and cumulative cultural transmission (Boyd et al. 2011). Modern hunter-gatherers possess uniquely human social structures, resource distribution norms, and sanctioning contingencies despite a relative dearth of one-shot encounters and norms for regulating one-shot interactions (Wiessner 2005; Gurven & Winking 2008). More generally, across societies social norms and moral intuitions such as fairness, obligation, and entitlement are widely conditioned on aspects of social relationships, such as roles, statuses, past behavior, and relative need (Edgerton 1985; Fiske 1991; Gurven 2006; Rai & Fiske 2011). Enduring relationships also remain integral to human adaptation across societies. Human social networks

may have more or less similar sizes across social structures and economies (Dunbar 1993; Zhou et al. 2005), and the social networks of hunter-gatherers show remarkably similar structure to those of urban populations (Apicella et al. 2012). As with a number of non-human primates (Silk et al 2009), in modern human environments social support within enduring relationships remains a key determinant of critical health outcomes (see, e.g., Yang et al. 2013).

Cooperation within relationships, even among non-relatives, may be relatively easy to explain in theory using mechanisms such as direct reciprocity (Trivers 1971; Axlerod & Hamilton 1981), indirect reciprocity (Alexander 1987; Milinski et al., 2002; Panchanathan & Boyd 2004), signaling (Hawkes 1993; Smith & Bliege Bird 2000; Gintis et al. 2001; Barclay & Willer 2007), and fitness interdependence (Tooby & Cosmides 1996; Roberts 2005; Nettle et al. 2011; Tomasello et al. 2012). Nonetheless, the role of such mechanisms in human cooperation remains much debated. Behavioral ecologists have shown that many of these mechanisms likely operate in face-to-face communities (Gurven et al., 2000; Hawkes & Bliege Bird 2002; Gurven 2004; Allen Arave et al., 2008; Nolin 2012; Macfarlan et al. 2013), but there remains a dearth of systematic comparative data on how relationships structure cooperation, and how ecological, demographic, or cultural factors influence cooperation across communities.

2. Whither Proximate Mechanisms?

While evolutionary scientists increasingly understand the patterning and predictors of norms for impersonal interactions as these regulate markets and large-scale cooperation (Henrich et al. 2010a; Lamba & Mace 2011; Mathew & Boyd 2011), there are no comparable comparative data on the norms and decision heuristics that obtain within enduring human social relationships. Importantly, the proximate mechanisms operating within relationships likely differ from those

regulating impersonal interactions. While results from economic games with anonymous targets apparently do generalize to naturalistic behavior in impersonal interactions (Nettle et al. 2011; Franzen & Pointner 2012), their results diverge from behavior in richer relational contexts (Gurven & Winking 2008; Wiessner 2009), and they only inconsistently tap local social norms in small-scale societies (e.g., Ensminger 2004). Behavioral heuristics such as "generalized social trust" or the "social exchange heuristic" (Kiyonari et al. 2000) apply when other target information is unavailable, but they do not predict behavior when targets are known (Sonderskov 2011). Behavior within enduring relationships is likely influenced by myriad *Recipient Identity-Conditioned Heuristics*, or RICHs – including norms relating to states, roles, and statuses, and endogenous relational sentiments such as love, respect, and hate engendered in previous interactions. Yet we know little about how most RICHs operate, either within or across societies.

There is little consilient theory, and there are fewer data, pertaining to the psychological mechanisms that regulate enduring human relationships, especially as these must potentiate observable cultural variation in social organization, ethnopsychological theories, and the structure of affect lexicons (cf. Markus & Kitayama 1991; Tooby & Cosmides 1992; Fiske 2000; Fessler 2006). "Affect", "emotions", and "sentiments" are clearly central to social behavior (White & Kirkpatrick 1985; Damasio 1994; Fiske 2002; Fessler & Haley 2003; Haidt 2007; Keltner & Lerner 2010), yet the functional structure of affect remains undertheorized and understudied (though see Tooby et al. 2008). While the cultural category "emotion" has been aptly problematized within anthropology (e.g., Lutz 1988), no framework for the comparative study of social motives has taken its place; academic psychologists routinely and unreflexively rely on culture-bound categories of emotion in studying a narrow slice of humanity (Henrich et al. 2010b), while cultural anthropologists hesitate to systematically compare cultures that appear

to have incommensurate affective worlds (see Lyon 1996). Neither experimental economic nor behavioral ecological studies of social behavior consistently gather psychological covariates, although such data are essential to unpacking the interaction of socially learned norms and evoked decision heuristics in the regulation of social behavior (Tooby & Cosmides 1992; Fiske 2000; Fessler 2006).

3. Present Research

Understanding both the origins of human uniqueness, and the forms and proximate bases of human social adaptation in most places and at most times, will require comparative data on the proximate mechanisms underlying cooperation and punishment within face-to-face communities. The present research addresses this need in three chapters.

Chapter 1 leverages a case study of "contempt" to develop a theoretical framework for studying the functional structure of affect across societies. This approach proceeds from the claim that English categories like "affect," "emotion," and "feeling" conflate two functionally distinct phenomena with complementary design features: *attitudes,* enduring representations of the fitness affordances of other persons to self, and *emotions*, embodied episodic responses to events having discrete fitness implications to self. In this framework, attitudes and emotions are functionally interdependent: *attitudes* represent and track the universal social-relational costs and benefits of others – for instance, fitness interdependence with them, their value as a source of expertise or leadership, or their advantage over oneself in zero-sum resource competition – while *emotions* implement adaptive behavior in particular social events the relevance of which is moderated by attitudes towards the individuals involved. I refer to this as the Attitudes-Scenarios-Emotions (ASE) model. In this model *attitudes* are a more diverse set than the bipolar

"like" and "dislike" generally studied in psychology; instead, a number of distinct social attitude dimensions track different dimensions of sociality (see e.g., Bugental 2000; A. Fiske 1991; Cacioppo et al. 1999; S. Fiske et al. 2007; Kenrick et al. 2010) and create a variety of composite attitude states (e.g., "love," "like," "respect," "hate," "contempt"). *Emotions* are also diverse, in that each is a functionally-specialized response system that coordinates adaptive behavior to a particular class of fitness-relevant events (Ekman 1992; Nesse 1990; Scherer 1984; Tooby & Cosmides 1990). Analyzing the features of "contempt" in light of this framework, I argue that this cultural model most clearly picks out not a uniquely human moral emotion, but an ancient attitude of disrespect and its emotional consequences in a Western democratic society. This framework has general implications for considering the patterning of emotions within relationships, the etiologies of individual differences in social strategies, and population differences in ethnopsychological theories, affect lexicons, and emotion dispositions.

Chapters 2 and 3 present quantitative data from 20 months of fieldwork in small villages on Yasawa Island, Fiji, which are used to evaluate implications of the ASE model. Chapter 2 includes three studies. Study 1 is a series of interviews that elicit the full breadth of the Yasawan affect lexicon. These interviews show that Yasawans use distinct sets of terms to refer to "feelings about" particular people, and "feelings because of" particular events. This results maps onto the proposed attitude/emotion distinction of the ASE model. Study 2 uses a pile sort task to show that social relationships are of primary salience when Yasawans talk about affect, and a set of five or six distinct social attitudes – "love" (*lomani*) and "like' (*taleitaka*), "respect" (*dokai*), "contempt" (*beci*), "hate" (*sevaki*), and "fear" (*rerevaka*) – anchor the conceptual organization of Yasawan emotions. Study 3 uses hypothetical vignettes with a between-subjects attitude manipulation to show that these attitudes differentially moderate emotions across social

scenarios; differences are both quantitative and qualitative, each attitude is emotionally pluripotent, and divergent attitudes (e.g., "love" and "hate") produce the same emotions in starkly different situations. These data support the hypothesis that population variation in affective worlds may follow from differential engagement of universal attitude-emotion constellations as a result of ecological, demographic, and normative forces.

Chapter 3 extends Chapter 2 with a study of dyadic social attitudes and behaviors in the male social network of one Yasawan village. The study describes and validates three RICH economic games that integrate multiple recipient identities and other-other tradeoffs while maintaining decision confidentiality and incentives: an Allocation Game (similar to an *N*-recipient Dictator Game), a Taking Game (similar to the "Social Strategies Game" of Rucas et al. 2010), and a Costly Reduction Game (similar to an *N*-recipient Costly Punishment Game), which measure, respectively, short-term behavioral altruism, selfishness, and spite. Most members of the male social network in one Fijian village played all three games, and were targets in the games for the other participants. Each also rated how much they felt each of six attitudes towards one other – "love" (*lomani*), "like' (*taleitaka*), "respect" (*dokai*), "contempt" (*beci*), "hate" (*sevaki*), and "fear" (*rerevaka*). Results demonstrate that levels of both altruism and spite are higher in these RICH games than in anonymous-target games in neighboring villages. Target need and "chiefliness" drive receiving and buffer against being taken from, while target income is the major driver of suffering spiteful reduction. Aggregate attitudes towards targets fully mediate relative receipt and loss, but not being spitefully reduced. These results capture the egalitarian ethos reported in Fijian ethnography, while illuminating the roles of endogenous attitudes and impersonal inequity aversion in regulating Fijian relationships. Such RICH economic games can thus be used to map population variation in the various RICHs supporting

cooperation within human communities, significantly advancing the toolkit of the evolutionary human sciences.

In generating novel comparative data within an integrative theoretical framework, this body of work should be seen as the necessary first step in a larger comparative enterprise designed to describe and explain, ultimately and proximately, the patterning of social relationships as these structure and support human adaptation.

Below, I sketch the social and economic conditions of Yasawa in more detail, and then flesh out Fiji's place in Pacific psychological anthropology as this is relevant to the current research. Crucially, as revealed by this review, Yasawa presents a number of affordances for the present research.

4. Ethnographic Context

Fiji is the historical crossroads of the South Pacific, evincing clear cultural (Sahlins 1963; Gray et al. 2009; Burley 2013) and genetic (Wollstein et al. 2010) gradients of the distinct populations to its west and east (i.e., "Melanesia" and "Polynesia"). Yasawa Island lies in the northwest corner of the Fiji Islands, at the northern end of the Yasawa group, 65 nautical miles from the town of Lautoka on Fiji's largest island, Viti Levu. Yasawa Island is 20km long but rarely more than two kilometers wide, with a maximum elevation of 400m. The island is home to six indigenous Fijian villages averaging around 200 people, the smallest with less than 100 residents, the largest over 300. Sketches of Yasawa Island are given in Raven-Hart (1956) and Henrich and Henrich (2006).

Village-level kinship is the primary mode of Fijian social organization (Sahlins 1962), and Yasawa is no exception. Each village is organized patrilineally and patrilocally, with

extended households (*itokatoka*) composing clans (*mataqali*) that together constitute a *yavusa*, or territorial unit. A *yavusa* tends to have a single Chief and is often, though not always, coextensive with a village. On Yasawa Island, two sets of two villages each have one *yavusa* and one Chief, one village has a single *yavusa* and Chief, and one village has two *yavusa*, though only a single paramount Chief. Within a village, clans are ranked by an historical division of labor, from the Chiefly clan, and the "Face of the Chief" (*matanivanua*), down through "commoners" including priests (*bete*), "kingmakers" (*sau turaga*), warriors, carpenters (*matai*), and fishermen. Today most villagers are generalists, and many historical roles are enacted only at ceremonies. Rank nonetheless pervades village life, dictating terms of address, comportment, obligations, and precedence in seating, eating, and receiving shares of distributed goods (Toren 1990). Within clans, descent, age, and gender determine rank in a strongly patriarchal fashion. Village meetings are run by Chiefs or their proxies and are animated by elders and other influential men from all clans.

A chief holds the highest inherited rank within a well-defined traditional hierarchy. The office of the Chief is greatly respected, and is accorded public demonstrations of respect including spatial positioning, choice foods, serving order, honorific language, and elaborate funerary rites. The person holding the chiefly office is assumed to embody core Fijian ideals such as generosity, self-control, and respectfulness (Ravuvu 1983). However, an individual Chief can lose the respect of the people, or an heir can fail to be installed as a Chief, to the extent that he fails to embody these values. Chiefliness (*vakaturaga*), or village-oriented generosity and *noblesse oblige*, is a necessary condition for installation as a chief, with chiefly "blood" being insufficient. A Chief has little opportunity to dictate to villagers, and depends on prestige and consent for his influence. The traditional economic role of a Chief entailed that he possess ample

resources and distribute them generously based on need, and male villagers in Yasawa still gather once a year to plant their Chief's yam garden, from which all can draw in times of need. A Chief was traditionally viewed as possessing immense *mana*, a kind of force of efficacy that permeated his possessions and was dangerous to the touch. Many Yasawans currently lament the general loss of *mana* by all Fijians, and it does not appear to play much of a role in legitimating chiefly influence in modern-day Yasawa. That said, the traditional lineage-based power structure of a village is still respected in the villages of Yasawa, and few question the right and responsibility of an exemplary Chief to influence village affairs. A village Chief is supposed to serve the good of the village, and it can fall to him to adjudicate disputes within the village when other options fail (Sahlins 1962).

Each village also has a locally elected representative of the national government (*turaga ni koro*) who liaises with the government, enforces national laws (albeit loosely), and organizes some community work. The controversies surrounding the Fijian central government feel very distant in Yasawa, and several water development, road improvement, hall construction, and cyclone relief projects have recently been implemented by the government, though to varying standards.

Each village on Yasawa Island hosts two Christian denominations, Methodist and Assemblies of God, whose services give cadence to the week's activities. The churches variously organize feasts, fundraisers, Bible study sessions, prayer groups, and rotating farm collectives. The congregations tend to cleave according to traditionalist/modernist sentiments. The Methodist church is invariably the older building, located on the central village green, and is bound up with the traditional village hierarchy and prestige goods such as whale's teeth (*tabua*). The Assemblies of God churches are often built on the fringes of the village, and attract younger

villagers and "commoners" through charismatic practices, entreaties to economic advancement, and proscriptions on *kava* drinking and smoking (see also Brison 2007b; Tomlinson 2009; Ryle 2010). There are also three primary schools on the island, and almost all children attend school from around the age of five until 14. Students must leave the island to obtain secondary education, which is increasingly common, and tertiary education, which remains quite rare. Literacy is high, and is reinforced by Bible study.

Subsistence on Yasawa is primarily root-crop horticulture and fishing with spear, line, and net, while littoral gathering, vegetable crops, and fruit trees supplement the diet. Pigs, chickens and cows are also kept and eaten, especially at ceremonies. Sea turtles are a particularly valued ceremonial food, and caches of eggs are eaten raw when found. Economic activities are highly gendered, with men doing most of the fishing and farming, and women doing much of the gathering, and all of the cooking. Around 25% of calories come from purchased goods such as flour, sugar, and rice (R. Boyd & J. Henrich, personal communication), which are stocked and sold from small canteens run by a handful of families in each village. However, supplies of these goods are unreliable, rendering subsistence activities indispensable, though risky. Cyclones (hurricanes) are common in Yasawa, with a significant tropical storm damaging crops and houses every several years. One village has relocated twice in the last 50 years owing to decimation by cyclones. The eye wall of a Category 4 cyclone raked along Yasawa Island in December 2012 and reportedly knocked down almost every traditional house on the island (which accounted for ~30% of dwellings). Each village gets its drinking water from several large (~10000 gallon) concrete tanks that collect rain water from the tin roofs of the church or community hall, as well as many smaller tanks attached to private tin-roofed homes.

Extended households are the primary economic unit on Yasawa, organizing most fishing, farming, and resource pooling. Clans also pool resources for holiday feasts and organize labor for house building, net fishing, yam planting, and life course rituals. Village-level collective action occurs as well, for tasks such as cleaning the island road, planting the Chief's yams, seasonally large fish drives, cultural performances for tourists, and school fundraising. Church congregations crosscut kinship and also organize rotating farm work and fundraisers, while hosting rotating intervillage services.

Beyond the household, resource transfers occur primarily through two mechanisms (Sahlins 1962). First, ritual obligations among clans and villages – involving the exchange of sacred objects, foodstuffs, woven mats, kerosene, and other goods – attend most life course rituals such as births, coming of age ceremonies, marriages, and funerals. Such exchanges are highly ritualized and strictly reciprocal, albeit often delayed. Second, a system of ad hoc need-based requests (*kerekere*) operates among households, clans, and villages. Any social unit can *kerekere* any other for virtually anything – food, labor, money, land – on the condition that the initiator is in demonstrable need, and the potential donor has enough to share. Every recipient is obliged to share when they are themselves the target of a *kerekere*, yet a transfer requires no short-term reciprocity or account keeping, and often the flow of goods carries a net imbalance that follows persistent need. Being a generous provider is a sure path to prestige and influence, and generosity and compassion (components of "chiefliness") are integral to the "Fijian way of life" (*na bula vakaviti*). Failure to participate in the *kerekere* system results in reputation damage and likely less support from others.

While small canteens are present in each village, other local sources of income vary across villages. A number of villagers from one village, and a small number of villagers from

other villages, work at the one resort on Yasawa Island, a highly-insulated five-star operation near the largest village. Another village on the southern end of the island has a lucrative deal with a cruise ship company owing to a popular limestone cave nearby. A third village has a relatively sophisticated sea cucumber harvesting operation that utilizes scuba gear funded by Chinese middlemen in Lautoka. Two villages have little economic alternative to selling fish and other produce to the resort. Yet most villagers must leave the island to find reliable income, and some villagers receive remittances from relatives working in Fijian towns or cities abroad. Most adult men, and many women, have spent some time working in resorts in the Yasawa group or in odd jobs on the mainland. Copra is no longer pursued as an economic resource on Yasawa, as small-scale household operations have been excluded by larger-scale operations elsewhere in Fiji.

Transport on the island is primarily by foot or horse. There are several trucks for hire, although the trucks are often in disrepair and the rutted dirt road that runs the length of the island is often impassable in the rainy season (November-March). Infrastructure is absent outside of the resort, and electricity comes almost exclusively from privately-owned diesel generators that run for only a few hours some nights of the week. Most villages also have a nursing station with solar power, a fridge, and basic medical supplies, although the stationed nurse is often visiting the mainland. A cell phone tower was installed by a private company on the high point of the island in 2010, and cell phones are now widely owned, though infrequently charged, while internet remains accessible only to temporary residents (e.g., nurses, pastors, anthropologists) who bring computers and wireless modems from the mainland. Outboard motorboats are not rare and are the primary means of interisland travel, with indigenous boatbuilding skills having been lost. However, fuel is unreliably available, and larger cargo ships run only intermittently as far

north as Yasawa Island, making transport to and from the island unpredictable. A high-speed tourist shuttle that runs daily up the Yasawa group to several dozen backpacker hostels stops short of Yasawa Island, and it is prohibitively expensive for most villagers to use. When used, one must arrange to be picked up by an outboard boat at the southern tip of the island south of Yasawa and then travel for an additional hour north. Trips to or from the mainland can be as quick as five hours, but more often take fifteen.

Linguistically, Fiji has some 300 dialects or "communalects" (Geraghty 1983) which fall roughly into two language groups, Eastern and Western, split by the central highlands of Viti Levu (Schütz 1962; Pawley & Sayaba 1971). The communalects of Yasawa Island clearly belong to Western Fijian, and are closely related to dialects from the Ba district of Northwestern Viti Levu (Triffit 2000). Nonetheless, the Yasawa Island language landscape is quite heterogeneous. There are slightly varying communalects among villages on Yasawa Island (Raven-Hart 1953), and increasingly divergent communalects as one travels away from Yasawa Island down the Yasawa island chain (Triffit 2000). The communalect of Waya, on the southern end of the Yasawa Group, may be the oldest and most distinct communalect in Fiji (Pawley & Sayaba In press). Yasawa, like Fiji generally, is prescriptively patrilocal, yet perhaps 10% ambilocal (Sahlins 1962), and exogamy sends many people to Yasawa Island from other islands in the Yasawas. An increasing proportion of Yasawa residents come from beyond the Yasawa region as well, as cross-cousin marriage prescriptions relax, and individuals attending school or seeking wage labor on Viti Levu return to villages with spouses from as far away as Lau (Eastern Fiji). To facilitate economic opportunities, some Yasawan primary schools forbid the use of village communalects in class and require Standard Fijian. For these reasons, Standard Fijian is effectively a *lingua franca* on Yasawa Island, as it is across Fiji (Pawley & Sayaba 1971), and it

is heard daily in conversations at all social scales, from family meals to village meetings and church sermons. Only the oldest (over 80) and youngest (under 5) Yasawa Island villagers speak primarily in their village communalect, although all villagers deploy theirs in particular contexts.

5. Pacific Ethnopsychologies and Emotion

In terms of ethnopsychology and affect, Fiji fits into a set of patterns that characterize Pacific societies generally. Ethnopsychological studies across the Pacific suggest that members of Pacific communities have relatively relational selves (White & Kirkpatrick 1985) – they consider existence to be fundamentally social and relational, defining their selves in terms of relationships instead of personal attributes, while their decision-making processes are weighted towards building and sustaining productive relationships (though see Brison 2007a). A complementary perspective would construe Pacific selves as interdependent (Markus & Kitayama 1991), implying an alignment of the goals of self and community. One putative consequence of this orientation is that Pacific islanders appear to orient their talk about emotions towards social context, to the relationships at issue and to the social causes and consequences of particular events, instead of towards differentiated internal feelings (Gerber 1985; Levy 1984; Lutz 1988; White & Kirkpatrick 1985). Generally, most Pacific societies appear to have a relatively undifferentiated model of the internal differentiation of affect, not drawing distinctions that map onto problematized Western constructs (Lutz 1988). In Fiji this concept is *loma-na*, which can be translated as "inside" or "middle". In Fijian ethnopsychology, *loma-na* refers to a person's insides, and specifically the wellspring of their thoughts, desires, and decisions – their "spirit, will, attitude, mind" (Gatty 2009). The concept is textured very much like the Samoan concept of *loto*, which means "depth" (Gerber 1985), and the Tongan cognate *loto*, which means

"inside" (Morton 1996). Pacific Islanders attend more to the social-relational implications of emotion than to its internal workings.

An ethic of community is also a salient theme in Pacific ethnography (Watson-Gegeo & White 1990; cf. Shweder et al. 1997). Community and tradition are central aspects of identity, and individuals tend to value the role they play in community affairs. Conflict resolution is often community-based, with a number of Pacific societies possessing small-scale institutions for mitigating conflict and repairing relationships. In many cases, these amount to conventionalized community gatherings for airing grievances and expressing valuations of threatened relationships. Many Pacific societies proscribe the expression of emotions and attitudes that undercut community (e.g. violent anger, arrogant pride), and prescribe emotions and attitudes that sustain community (e.g. compassion, respect, and shame). I discuss these emotions below.

In a related vein, hierarchy is a salient aspect of social organization in many Pacific communities (Keating & Duranti 2006; Sahlins 1963; Toren 1990; White & Lindstrom 1997). Such social arrangements are associated with a diversity of asymmetrical interaction norms, vertical constitution, and spatial metaphors in speech about social relationships (White 1985; Toren 1990; Fiske 1991). Nonetheless, there is wide historical variation in the degree to which Pacific hierarchies were institutionalized and composed of ascribed and inherited as opposed to achieved status. The conventional distinction between Melanesian "big man" societies and Polynesian chiefdoms has become increasingly blurry (White & Lindstrom 1997; Watson-Gegeo & White 1990), and substantial variation is historically documented and persists today. Accounts of Fijian hierarchy (e.g., Nayacakalou 1975) suggest important roles for both ascribed and achieved status – not surprising in the region that "intergrades" Melanesian and Polynesian cultural traits (Sahlins 1963; Kirch 2000). Two aspects of Pacific hierarchy stand out as relevant

to considerations of emotion. First, hierarchies are often viewed as integral to community functioning and as effective arrangements for leadership, decision making, and resource distribution (cf. Fiske 1991). Such construals of hierarchy as legitimate are reflected in the valuation of emotions and attitudes of deference (e.g. respect, shame). Second, the salience of legitimate, community-serving hierarchy in the Pacific is plausibly related to the prominence of norms against acting overtly powerful, "acting big," being arrogant, or otherwise violating hierarchical expectations. Such proscriptions are described in virtually all Pacific societies, from a Micronesian atoll (Lutz 1988), to the Solomon Islands in Melanesia (White 1985) to the outskirts of Polynesia (Levy 1973). They are also salient to observers across the Fijian island group (Ravuvu 1983; Toren 1990). These norms mirror others that hold that Chiefs must be the exemplary community member: compassionate, modest, giving, and concerned with the well-being of the community. Such norms potentially undercut the expression, and possibly the experience, of self-centered goals and associated emotions, such as pride, and they engender emotions of condemnation.

Finally, to place the foregoing in an ecological context, many Pacific communities exist, or certainly historically existed, in an objective state of vulnerability. This is especially true of the small, low-lying islands and atolls (e.g., Ifaluk; Lutz 1988), but it also holds for any fishing and horticultural community whose resources can be ravaged by frequent and unpredictable cyclones. Many Pacific communities are small and face-to-face, with locally organized systems of resource production and distribution. This creates a palpable degree of interdependence among community members who rely on one another for production and risk insurance. Add to this consideration that local warfare was historically endemic to many of the larger islands and island groups in the Pacific (Kirch 2000), including Fiji (Derrick 1950), and an additional degree

of community interdependence can be imagined. Potentially mediated by ethics of community and relational selves, such ecological considerations might be expected to strongly condition emotions and attitudes.

Thus, patterns of ecological interdependence, hierarchical organization, community orientation, and relational self-conceptions characterize many Pacific societies, including Fiji, and each might be thought of as influencing and being influenced by affect. In addition, a number of more specific patterns in affective proclivities and emotion norms have been observed in Pacific societies that would appear to facilitate social-relational adaptation, and Fiji is typical in these respects.

First, in Polynesia in particular, and in other areas of the Pacific, psychological anthropologists have described a salient, "hypercognized" cluster of emotions that index affiliative ties and behaviors of positive sociality: helping, giving, compassion, pity, even grief and sadness at separation or loss (Tongan *'ofa* [Morton, 1996; Bender et al. 2007]; Samoan *alofa* [Gerber 1985]; Hawaiian *aloha* [Ito 1985]; Tahitian *arofa* [Levy 1973]; Fijian *loloma* [Capell 1941; Ravuvu 1983; Toren 1990; Brison 2007; Gatty 2009]; Ifaluk *fago* [Lutz 1988]). Many authors have glossed the central term in this cluster as "love," while quickly qualifying the extent to which the English term carries connotations (such as happiness and sexual desire) that are absent in the Pacific translations. Note, however, that upon full analysis, the English term "love" subsumes a number of distinct clusters of meaning, including attachment, liking, respect, and limerance-like infatuation (Storm & Storm 2005)..

A number of Pacific societies simultaneously appear to lack a word translatable as "guilt," including Ifaluk (Lutz 1988), Tahiti (Levy 1973), Samoa (Gerber 1975, as cited in Russell 1991), and Fiji (J. Henrich, personal communication). However, it also appears that some

of the above mentioned "love"-like terms are used in many of the contexts as "guilt" would be in English (Levy 1973), referring to a negative feeling felt for someone as a result of one's actual or considered harm to another, or when one has an obligation to help another but their lot cannot be changed. The "sadness/compassion" component in several translations of "love" captures this feature, and Lutz's (1988) descriptions of *fago* for those left behind during a journey may exemplify it.

As important as feelings glossed as "love" appear to be in the Pacific, feelings glossed as "respect" appear equally central, although they have received somewhat less focused analysis from the perspective of psychological anthropology (cf. linguistic anthropology's concern with "honorifics"; e.g. Keesing & Duranti 2006). Both Morton (1996) and Bender et al. (2007) foreground "respect," *faka'apa'apa*, as a cardinal virtue in Tonga, which motivates deference and obedience, and which goes hand in hand with humility. There is also a separate lexicon used towards respected others (Morton 1996). In nearby Samoa, Gerber has described two closely related terms for "respect," *ava* and *fa'aaloalo*, the latter of which is a "feeling associated exclusively with socially sanctioned attitudes and behaviors towards people who are regarded as 'higher' than oneself" (1985: 152), for instance elders, parents, and those with formal status. In Fiji, "respect" (*dokai, rokovi*) is similarly accorded great social significance. Brison (2007) reports that one of her informants described respect as the "most important thing in Fijian culture"(1). Toren (1990) similarly notes that all Fijian relationships, excepting cross-cousins (in a joking relationship), are "characterized by a certain degree of respect" (43). Providing additional detail, at least as regards cultural values, Ravuvu (1983) describes the centrality of "respect" as a personality descriptor that characterizes the ideal Fijian, one is humble, deferential, obedient, compliant, calm, considerate, and helpful.

Closely related to the role that "respect"-like feelings play in the regulation of hierarchical relationships in the Pacific, there are also numerous descriptions of a "shame"-like emotion that follows from breaches of important relationships and community expectations (White & Watson-Gegeo 1990). Arno (1990) has described *madua* ("shame") in Fiji as the "central concept energizing the process" of "straightening" relationships that have become "entangled" because of interpersonal wrongdoing. He also associates *madua* with the avoidance characteristic of parallel cousin relationships. White & Watson-Gegeo note that shame appears most salient in the most hierarchical of Pacific societies (they foreground Fiji and Samoa). "Shame" glosses are a recurrent theme in discussions of Pacific sociality (see chapters in White & Kirkpatrick 1985, ranging from Micronesia to Hawaii), implying sensitivity to the opinions of others in social environments with informal sanctions. In many cases, "timidity" in social contexts is valued even as confidence in engaging the natural world is expected (see, e.g., Lutz 1988; Ravuvu 1983).

Another pronounced aspect of many descriptions of Pacific affect are proscriptions on the feeling and expression of a "pride"-like emotion and its assumed consequents "acting big" and arrogance. For all those societies already discussed as valuing "love" and "respect," acting "big" – literally walking tall and showing off, but also being aloof from social expectations, and acting more important than one's legitimate social standing – is a paramount condition for receiving disapprobation and being the object of negative gossip. In Fiji, *viavialevu* ("wanting bigness"), or thinking oneself bigger than socially recognized, is a derogatory term that "is used to criticize any type of presumptuous or arrogant behavior, including that of a man who pretends to high status" (Toren 1990: 174). Levy (1973) notes that "the Tahitian language has many words indicating "stuck-up," "putting on airs," proud, making oneself high" (206), and that such

characteristics are considered "suspect, unpleasant, un-Tahitian, and dangerous in a leader." Regarding Ifaluk in Micronesia, Lutz writes that, "There are many words to describe people who strut about, and 'think they are number one.' People who are *gaiseus* walk with their shoulders thrown back, and do not sit all the way down among a group of people. This manner of walking and sitting is seen as exemplifying a lack of respect and an attitude of superiority…The disvalue attached to…'show-of' traits is due to the negative effects of such behaviors on others" (1985: 66).

A final recurrent dimension of Pacific affective worlds involves the set of beliefs surrounding anger, most notably that anger is potentially dangerous to social harmony; that others' anger should be feared; and that anger is especially dangerous if suppressed, implying that controlled expression, preferably through words, and often through instituted practices of conflict resolution, is the best way to deal with anger (White & Watson-Gegeo 1990). Ravuvu (1983) has described the Fijian emotional ideal of being "slow to anger and soon appeased" (109). He says, "People know that anger or hatred is ruinous to the individual and subversive to group living and solidarity. So it must be kept at a low level." He goes on to describe the inevitability of anger, but also the role of public arenas and third parties in allowing grievances to be voiced and escalation mitigated. Lutz (1988) similarly places great emphasis on Ifaluk conceptions of the dangers of anger for their tight-knit, interdependent community. She focuses her discussion on *song*, glossed as "justifiable anger," a morally approved response to harm done to another which is expressed in socially sanctioned ways. *Song* elicits "fear/anxiety" in the offending party, and leads them to act in a virtuous (i.e., calm) manner in the future. *Song* is contrasted with other forms of anger, especially with a proneness to anger that is among the most devalued traits on the atoll.

Fiji, and Yasawan villages in particular, thus present a number of affordance for the present study. A Yasawan village is composed of life-long relationships with cross-cutting bases that include biological relatedness, diverse kinship norms, inherited and achieved status asymmetries, differentiated economic interdependencies, several church congregations, and individual variation in market integration. Appropriately measured and included as covariates, these variables can be pitted against one another as predictors of social attitudes and relational behavior. Second, while the economic games presented in Ch.3 are the first conducted in that village, other villages from the same population, on the same island, have been well characterized using anonymous-target games (Henrich & Henrich 2006; Henrich et al. 2010; Marlowe et al., 2010). This allows some measure of comparison between the novel RICH games in Study 3 and standard anonymous-target economic games. Finally, Fiji, and especially Yasawa Island, has a relatively unexplored emotion lexicon, yet psychological anthropologists have produced a compelling body of research on the significant differences between Pacific and Western ethnopsychologies and emotions. Specifically, Pacific societies appear to hypercognize relational attitudes and the relational implications of emotions, in contrast to the highly individualistic and compartmentalized emphasis on phenomenological valence and arousal in Western samples (see White & Kirkpatrick 1985). As the present research attempts to demonstrate, such widely divergent affective worlds are compatible with a universal architecture of affect composed of attitudes, emotions, and their functional interdependence.

CHAPTER 1

Emotions, Attitudes, and the Case of "Contempt": Rethinking the Functional and Cultural Organization of Affect

1. Introduction: "A Special Case"

1986 was a defining year for the study of contempt. That year, Ekman and Friesen (1986) nominated contempt as a basic emotion, having shown that college students in ten cultures chose "contempt" or its nearest translation to label a unique facial expression, the unilateral lip curl. "Contempt", an English cultural model, thus became *contempt*, an evolved emotion with quick onset and brief duration that evolved to solve a fundamental life-task. (Ekman, 1992). In addition, the absence of evidence of the unilateral lip curl in non-human primates suggested that *contempt* was a uniquely human emotion with moral significance.

Ekman and Friesen's (1986) provocative claims received immediate attention. Several papers quickly critiqued the original study (Izard & Haynes, 1988; Russell, 1991a,b) and occasioned replies (Ekman & Friesen, 1988; Ekman, O'Sullivan & Matsumoto, 1991). Numerous articles have now explored the form and universality of contempt expressions (Alvarado & Jameson, 1996; Haidt & Keltner, 1999; Matsumoto & Ekman, 2004; Matsumoto, 2005; Rosenberg & Ekman, 1995; Rozin, Imada & Haidt 1999; Wagner, 2000), and empirical debates over facial expressions have dominated the relatively small contempt literature (Haidt, 2003). Recently, researchers have begun exploring the antecedents and functional consequences

of contempt as a significant social psychological and moral phenomenon (e.g., Fischer & Roseman, 2007; Hutcherson & Gross, 2011; Rozin et al., 1999).

Yet while increasingly visible, the contempt-as-emotion literature remains mired by mixed results, and no single account is able to explain the extant set of findings. This includes the range of expressions associated with "contempt" (Izard & Haynes, 1988; Wagner, 2000), its "nebulous" co-occurrence with other emotions (Hutcherson & Gross, 2011), and "confusion" surrounding the meaning of the term (Haidt & Keltner, 1999; Matsumoto, 2005). Moreover, a number of the properties of contempt are anomalous for a basic emotion, including a relatively enduring or even permanent time course (Fischer & Roseman, 2007), and a "cool" phenomenology (Haidt, 2003; Izard, 1977; Miller, 1997). There is thus continued resonance in Rosenberg and Ekman's (1995) reference to contempt as a "special case" among putative basic emotions.

I propose that the problem lies in the contempt-as-emotion assumption, which has rarely been questioned. Disagreements over contempt in the facial expression literature have concerned either methodological artifacts (e.g., Wagner, 2000), the reliability of the correspondence between different basic emotions and expressions (e.g., Keltner & Haidt, 1999), or the paradigmatic assumptions linking expressions and emotions (e.g., Russell, 1991c) – that contempt is an emotion has gone unquestioned. The handful of studies on the antecedents or consequences of contempt have likewise assumed that "contempt" does refer to a natural-kind emotion (e.g., Fischer & Roseman, 2007; Hutcherson & Gross, 2011; Laham et al. 2010; Rozin et al. 1999). To be sure, some authors have questioned whether "contempt" picks out a psychological primitive – Prinz (2007) argues that *contempt* is a blend of disgust and anger, while others (e.g., Fiske et al., 2002; Cottrell & Neuberg, 2005) see "contempt" as superordinate

to, or synonymous with, these other emotion terms – but these approaches nonetheless assume that "contempt" refers to an emotion system at some level.

Significantly, in the same year as Ekman and Friesen's (1986) seminal proposal, Frijda (1986) advanced an alternative approach, defining contempt not as an emotion, but as an attitude: "Contempt…can be said to be the rejection of, or an attitude of indifference towards, something or someone esteemed to be of low value. The rejection and indifference as such do not differ from rejection or indifference toward any other kind of object; it is the object that provides the specificity of contempt" (73). On this account, contempt is characterized by an absence of emotional engagement. This framing further suggests an enduring evaluation and the pervasive moderation of relational behavior – features that Ekman (1992), like Frijda, ascribes to "emotional attitudes" in contrast to emotions. This account also raised the possibility that contempt is phylogenetically ancient, present even in species with limited moral faculties.

Little work has cited Frijda's (1986) description, let alone attempted to empirically evaluate it next to the basic emotion approach. Only Mason (2003) has echoed Frijda, yet from an independent direction, arguing "'attitude' best captures…contempt's quality as a form of regard…a certain affective stance toward another person" (239). This is unfortunate given the current state of the contempt literature. I propose that reconceptualizing contempt as an attitude can both resolve existing debates and explain neglected properties of contempt. While not precisely following Frijda (1986) or Mason (2003), I suggest that "contempt" is best understood as a cultural model that includes the causes, constituents, and consequences of a particular attitude state; these causally- and temporally-linked components cohere in an experience-grounded affect schema that incorporates social-relational contexts, attributional and emotional antecedents, cognitive and affective representations, and downstream emotional and behavioral

dispositions. The meaning of "contempt" is fluid with respect to which aspects of this functional network are emphasized, both on the timescale of psychology experiments and at the scale of cultural change. Under some conditions, "contempt" can thus look more like the emotions associated with the attitude state than the attitude itself. I speculate that the "contempt" schema has come to emphasize emotion dispositions at the expense of a hypocognized (Levy, 1984) attitudinal core as this attitude state has become increasingly morally objectionable in democratic societies.

Integral to our argument are two theoretical moves. The first distinguishes ethnopsychological emotion terms from underlying behavior regulation systems while relating these two levels of analysis. There is compelling evidence that linguistic categories are not wholly determinative of emotional experience and behavior (Breugelmans and Poortinga, 2006; Fessler, 2004; Haslam and Bornstein, 1996; Levy, 1973). Instead, the meanings of terms derive in part from temporal and causal contingencies in embodied emotional experience (Lyon, 1996; Niedenthal, 2008; Russell, 1991a; White 2000). The patterning of the emotion schemas organized in language may thus correspond to interconnections among components of an underlying functional architecture in interaction with social and ecological constraints; with the right perspective and the right probes, it should be possible to see how these parts fit together. I argue that the meaning of "contempt" makes sense as a shifting reference to a particular network of functional systems centered on an attitude state.

This claim entails our second move, which goes beyond the description of word meanings in a population to stipulating structures and processes at the functional level (Royzman et al. 2005). I am explicit in distinguishing functional constructs from the folk concepts upon which they are based, as concepts such as "emotion" are culturally-situated categories (Lutz

1988; Russell, 1991a); redefining such constructs using evolutionary considerations militates against importing folk assumptions into psychological science. Specifically, I delineate functional definitions of "emotions" and "attitudes," and fit *contempt* into this framework. While I largely adhere to an existing adaptationist definition of emotions, I marry this to a novel adaptationist conception of "attitudes" based on ideas from within the attitude literature (e.g., Cacioppo et al., 1999; Fazio, 2007) and beyond, including evolutionary psychological notions of functional specialization (Barrett & Kurzban, 2006). I introduce attitudes as a serviceable construct in evolutionary psychology (cf. Tooby et al., 2008) by proposing a number of independent attitude dimensions that correspond to distinct aspects of social-relational affordances (*sensu* Bugental, 2000; Kenrick et al., 2010; see also Neuberg & Cottrell, 2008). I suggest that evoked differences in attitude baselines should be considered one of many potential sources of individual and between-group variation in emotions, social behavior, and the meanings of affect terms.

Within this framework, I unpack the underlying affect systems that contribute to the schema "contempt." I propose that the core attitude, *contempt*, is an absence of *respect*, usually abetted by a parallel absence of *liking* and *love*; it entails devaluation and diminution, and it functionally proxies another's low intrinsic relational value as cued by inefficacy or replaceability. *Contempt* leads to three clusters of relational behavior – intolerance, indifference, and exploitation – that are, ceteris paribus, fitness-enhancing vis-à-vis someone of low value. These behaviors follow from potentiated *anger* and *disgust*, and from muted prosocial emotions. Like *hate*, *contempt* can be thus thought of as a "syndrome of episodic dispositions" (Royzman et al., 2005), the function of which inheres in emotion moderation across contexts. The breadth

and variation in meanings of "contempt" derives from the manifolds of this functional network in interaction with individual and cultural differences.

This framework explains the coherence of the various features ascribed to "contempt" in the literature. It also explains how attitude schemas such as "contempt" invite study as emotions, producing inconsistent results. More generally, our approach foregrounds the reciprocal functional relationship of attitudes and emotions, developing a topic rarely pursued in these mutually isolated literatures. I show how this illuminates the underpinnings of the patterning of affect in social relationships, as well as the grounded pathways traveled by affect schemas and emotion concepts across cultures and during the course of sociolinguistic change. I thus advance a rapprochement between evolutionary psychology and psychological anthropology for the sake of understanding a biologically cultural species.

Below, Section 2 lays out our approach to emotions and attitudes, and the folk concepts that derive from these functional systems. Section 3 details the eight features associated with "contempt" in the literature. Section 4 stipulates the network of functional systems that facilitate fluidity in the meaning of "contempt," and distinguishes *contempt* from *hate*. Section 5 fleshes out that fluidity across different time scales and levels of analysis, reconsiders the phylogeny and evolution of *contempt*, and relates *contempt* to psychopathy. Section 6 summarizes and discusses some implications of the thesis, and Section 7 concludes.

2. Emotions and Attitudes

Emotion researchers often distinguish emotions from other types of affective phenomena, usually on the basis of properties, aspects (Schimmack et al., 2000), or design features (Scherer, 2005). I contend that the features of "contempt" suggest an underlying psychological kind that

does not fit most conceptualizations of emotion. As I will detail below, these features include an enduring association with an object, an evaluative response to traits not situations, "cold" phenomenology, and the moderation of multiple emotion systems across contexts. In line with the positions of Frijda (1986) and Mason (2003), these features suggest that contempt is an attitude. To undergird this claim, I will first detail an adaptationist approach to emotions and attitudes against which to evaluate the features of "contempt."

2.1 Emotions

Akin to the basic emotions approach employed by Ekman and Friesen (1986), I use a concept of emotion derived from adaptationist and social-functionalist approaches (e.g., Cosmides & Tooby, 2000; Fessler & Haley, 2003; Fiske, 2002; Haselton & Ketelaar, 2006; Keltner et al., 2006; Nesse, 1990; Nesse & Ellsworth, 2009; Tooby & Cosmides, 1990, 2008). An emotion is a contingent and episodic "mode of operation" that consists in a coordinated shift across an organism's motivational, information processing, and action implementation systems that facilitates a particular class of behaviors in response to the appraisal of a particular state or situation. An evolved emotion is a reliably-developing response crafted by natural selection to coordinate fitness-enhancing behavior vis-à-vis ancestrally recurring threats and opportunities (hereafter "adaptive problems"). Not all appraisals elicit emotions; each genetically evolved emotion was selected by a particular adaptive problem for which there were 1) reliable identifying cues, and 2) a narrow range of fitness-enhancing responses, and selection produced a reliably-developing conjunction of cue appraisal and adaptive response (an emotion). Most human emotions have deep phylogenetic roots and are case studies in serial homology (e.g., Gervais & Wilson 2005) owing to the successive cooptation of their stimulus-response structure

to solve novel adaptive problems using a "prepackaged" behavioral response (Fessler & Gervais 2009). I also leave open the possibility that some conjunctions of appraisals and embodied responses are culturally constructed, but such ontogenetic adaptions to cultural conditioning would still have the proximate form described here.

Many emotion researchers view divergent motivational changes as the clearest distinguishing features of emotions and as the primary channel through which emotions implement adaptive behavior (Frijda, 1986; Roseman, 2001). Adaptationist research has uncovered surprising design features in the motivational changes at the core of closely related emotions. For example, Schnall et al. (2010) showed that "elevation," a response to seeing someone act prosocially, selectively increases altruism relative to happiness and mirth inductions. The authors interpret this emotion as a response to cues that prosociality is prevalent and valued in a social environment, with "elevation" functioning to motivate the actor to behave in ways that lead to success in such an ecology.

Considering the adaptive problems for which a putative emotion evolved has also been a productive heuristic for psychologists interested in judgment and decision-making biases (see Pfister & Bohm, 2008). Such biases can adaptively regulate behavior by shifting perceived trade-offs and illustrate that emotions do not function separately from cognition, but rather arise in and through cognition. Contingent heuristics are among the more compelling sources of evidence for differentiation among introspectively similar emotions. For instance, Lerner and Keltner (2000) showed that "fear" and "anger" produce different risk assessments – "fear" creates pessimism, while "anger" creates optimism, differential responses that make functional sense given their antecedents.

The comparative study of facial expressions lends additional support to the claim that there are distinct emotions that function in distinct contexts. Darwin (1872) and van Hoof (1972) described how facial signals in humans evolved from non-human antecedents to adaptively influence the behaviors of others in particular social situations. Ekman and colleagues (e.g., Ekman et al., 1987) have since amassed an impressive data set supporting the universality of some emotion expressions. Elfenbein and Ambady (2002) summarize the robust evidence that, across cultures, distinct expressions are recognized and related to different situations.

Jointly analyzing the adaptive problems of social relationships and the design features of particular emotions, a number of authors have recently suggested that many discrete emotions function to regulate behavior within social relationships – that these emotions are inherently transactional and relational with respect to conspecifics (e.g., Fessler & Haley, 2003; Fiske, 2002; Fischer & Manstead, 2008; Frank, 1988; Haidt, 2007; Keltner & Haidt, 1999; Keltner et al., 2006; Kitayama et al., 2006; see also de Rivera & Grinkis, 1986; Kemper, 1991). Some authors have classified emotions according to the general functions they serve in relationships – engagement vs. disengagement (Kitayama et al., 2006), or affiliation vs. distancing (Fischer & Manstead, 2008). Other authors have proposed specific problem-based functions, such as facilitating ("gratitude") or repairing ("guilt") cooperative relationships, or acknowledging reduced status ("shame") or elevating another's status ("awe") in a hierarchy (Keltner et al., 2006; see also Fessler & Haley, 2003; Haidt & Joseph, 2007). Some social emotions (including love and guilt) are thought to function as psychological commitment devices that proxy (Fiske, 2002) and motivationally weight relational value (e.g., Fessler & Haley 2003; Frank, 1988; Gonzaga et al. 2001; Hirshleifer, 1987; Pfister & Bohm, 2008). These mechanisms sustain long-term relationships by countervailing a host of cognitive biases and preventing missed

opportunities and sated temptations in particular relational situations (Fiske, 2002, 2009). I will revisit such subjective commitment mechanisms when discussing attitudes.

There is a natural affinity between the adaptationist approach and appraisal theories of emotion (e.g., Frijda, 1986; Lazarus, 1991; Roseman et al., 1990; Scherer, 1984; Smith & Ellsworth, 1985). These theories hold that subjective meanings, interpretations or evaluations of events mediate between events and emotion elicitation, with distinct appraisals corresponding to distinct emotion outcomes. Studies grounded in appraisal theories have produced impressive evidence that different antecedent interpretations lead to distinct emotions, even in cross-cultural samples (e.g., Bender et al., 2007; Frijda et al., 1989; Roseman et al., 1990, 1995; Scherer, 1997; Scherer & Wallbot, 1994). In addition, both adaptationist and appraisal theories see emotions as adaptively componential, functioning through coordinated changes in multiple aspects of an organism (e.g., attention, physiology, motivation).

One difference in these approaches is in where they locate emotions in the process of behavior regulation. Evolutionary psychologists (e.g., Cosmides & Tooby, 2000; Tooby & Cosmides, 2008) propose that emotions are superordinate programs, distinct components in a computational architecture that are activated given appropriate cues, and which implement organism-wide changes to facilitate adaptive behavior. Each emotion is a discrete program sculpted by natural selection, and the category "emotions" picks out the class of programs that regulate behavior through massive modulation vis-à-vis recurring, detectable events that afford straightforward systemic responses. In contrast, as an influential pioneer of appraisal theories, Scherer (1984, 2009) proposes a "component process model" wherein emotions emerge from the interaction and integration of continuous appraisals, with some appraisals having greater or lesser impact on one or only some components. For Scherer, there are potentially infinite output

patterns among the components, although a number of forces conspire to produce the modal emotions, those cross-culturally salient environment-emotion-behavior linkages that achieve widespread lexical marking and are called "basic" emotions by others (see also Colombetti, 2009). These channeling forces include prewiring among appraisal components and outcomes, regulatory connections among components, prototypical appraisal patterns, and ontogenetically recurring environmental events (cf. Kitayama & Markus, 1994; Lutz & White, 1986).

For our purposes, the differences between these two positions are inconsequential, as both positions support the key features that I ascribe to emotions: they are situated responses to appraised events; they are relatively fleeting; they are coordinated changes in multiple sub-systems; and they facilitate adaptive behavior regulation in particular situations. Moreover, they cohere as functional kinds across cultures, even as cultures vary in how they categorize, emphasize, explain, express, and value different aspects of emotions, while emotions vary in their frequency and interaction with local ecological, social, and psychological constraints and affordances (e.g., Cohen et al., 1996; Kitayama et al., 2006; Lutz & White, 1986; Mesquita & Frijda, 1992; Russell, 1991a; White, 2005).

I should note that a vigorous movement questions the above account of emotions. Critics argue that emotions are neither coordinated activities among components, nor programs that orchestrate coordination, but are instead language-mediated chunkings of the otherwise uninterrupted stream of "core affect" – the two-dimensional regulatory state space wherein valence and arousal continuously represent the organism's relationship to the environment (Barrett, 2006a,b, 2009; Clore & Ortony, 2008; Russell, 2003, 2009). This approach (termed "psychological constructionism") argues against the idea that there are discrete natural kinds of emotion, foregrounding the putative lack of evidence that discrete emotions have 1) unique

signatures within a given component, and 2) unique response profiles across components (Barrett, 2006a).

Barrett's (2006a) argument that individual emotion components do not evince emotion-specific signatures is not problematic for the evolutionary approaches described above. Such approaches see design in the coordinated activity among a number of problem-general systems (e.g, attention, arousal, motivation), and the absence of evidence of unique emotion signals within components does not negate the possibility of functional kinds as unique profiles across components (Mauss and Robinson, 2009). Research has generally failed to find unique patterns for those components in which emotion-unique patterns might not be predicted, such as in arousal and valence. Where unique patterns have been predicted (e.g. motivation; see Frijda, 1986; Lazarus, 1991), specialized patterns have been found – for instance, motives to be altruistic (Schnall et al., 2010), to work hard for approval (Williams & DeSteno, 2008), and others (see Tooby et al., 2005 for a discussion of motivational specializations). Additionally, there is suggestive evidence that even those modulations of common components that are not unique to particular emotions still make functional sense – for instance, increases in autonomic nervous system activity during "fear" and "anger" (Cacioppo et al., 2000), or changes in risk assessments during "anger," "fear," and "disgust" (Fessler et al., 2004; Lerner & Keltner, 2000).

Barrett's (2006a) claim that there is little evidence of coordination across components is potentially more problematic for the adaptationist view of emotions. However, a recent meta-analysis of research on emotion elicitation supports the contention that at least some components are coordinated in discrete emotions (Lench et al. 2011). Moreover, it may be fruitful to specify emotion processes in ways that do not entail invariant component coordination. Scherer's (2009) component processes model is an important step in this direction. Ambivalence across systems

could be construed as functional in a complex world (see Cacioppo et al., 1999), while action tendencies (Frijda, 1986) and emotivational goals (Roseman, 2001) predispose action but do not determine it; motivations, construals, and attentional biases ought to be sensitive to all number of constraints and affordances within a situation in relation to an emoter's traits and state, and such flexibility as a function of emotion makes good adaptive sense (see Scherer, 1984).

Importantly, an adaptationist approach highlights a number of inadequacies in the psychological constructionism of Barrett and colleagues. Researchers have documented many significant, functional differences among similarly-valenced emotions, such as fear and anger (Harmon-Jones et al., 2009; Lerner & Keltner, 2000), anger and disgust (Fessler et al., 2004), anger and sadness (DeSteno et al., 2004; Harmon-Jones et al., ibid.), pride and happiness (Williams & DeSteno, 2008, 2009), and elevation and mirth and happiness (Schnall et al., 2010). Differences in attendant arousal appear not to adequately account for these differences. Likewise, people respond distinctly to different events in plausibly functional ways even without clear distinctions in language (Breugelmans and Poortinga, 2006; Fessler, 2004; Haslam & Bornstein, 1996; Levy, 1973). Across cultures, there are invariant, plausibly functional relationships in the kinds of responses (in terms of physiology, motives, feelings) that follow from particular kinds of event appraisals, even as culture influences the events to which particular appraisals are applied (Bender et al., 2007; Scherer, 1997). A sophisticated approach to the componentiality of emotions arguably even aids cross-cultural comparisons of emotion (Mesquita & Frijda, 1992; Shweder, 2005), as it provides criteria with which to better describe and explain cultural variation in emotions. Additionally, though downplayed by Barrett and colleagues, evidence from behavioral neuroscience (Panksepp, 2007), and results concerning facial expression recognition (Ekman 1992; Elfenbein & Ambady 2002), suggest that many more than two

discrete systems are responsible for producing particular behaviors under particular circumstances.

Lastly, the natural kind critique of the psychological constructionists is ultimately misplaced, because it is directed principally at discrete folk emotion categories having lexical names (Scarantino, 2009). English lexical items for emotions have been integral to psychological research since its inception, and their use in relation to evolutionary and functional analyses of emotion have long been criticized (see, e.g., Ortony & Turner, 1990; Wierzbicka, 1992). Psychological anthropologists have documented the extent to which the English emotion lexicon fails to map onto other languages, in some cases having words that other languages lack (e.g., "guilt"; White & Kirkpatrick 1985), and in other cases lacking words present in other languages (e.g., *schadenfreude*, or the "feeling of the uncanny" lexicalized by Tahitians; Levy, 1973; see Russell, 1991a for a review). Some have argued that this linguistic variation critically undermines claims about the universality of putative basic emotions (e.g., Lutz, 1988). Barrett (2006a,b) follows this line, yet much of the research she reviews uses English emotion words as the anchors relative to which coordination among emotion components is measured. Foregrounding equivocal results in such data is tantamount to arguing that English folk concepts of emotion do not pick out natural kinds. This result should not be surprising (Griffiths, 2004; Mauss & Robinson, 2009).

The psychological constructionists are right that there are building blocks out of which emotions are built – namely, the components of emotional responses discussed earlier. However, they underestimate the functional specialization that characterizes combinations of these building blocks in the linking of appraisals with behavior regulation (see also Fontaine et al., 2007). Barrett (2006b) appears to have developed a theory that is more about emotion experience, as

introspectively perceived and categorized in language, than about the functions of emotions as adaptive regulators of perception, judgment, and decision-making.

2.2 Emotion Concepts

Following psychological anthropologists, evolutionary approaches have increasingly recognized that emotion terms may not pick out functional kinds at the psychological level (e.g., Fessler 2004). English emotion terms need not refer to single functional kinds defined by the same coordinated activity, as they can have many uses, being performative or political as much as veridical (Besnier, 1990; Lutz & Abu-Lughod, 1990; Sabini & Silver, 2005), and can refer to any aspect of emotion scripts, including feelings, features of scenarios, relationships, and desired outcomes (Niedenthal, 2008; Russell, 1991a; White, 1993, 2000). The meaning of emotion words can also vary across individuals for numerous reasons, including individual differences in appraisal tendencies and differences in the typical form of emotional responses (e.g., Kuppens et al., 2008).

Adaptationist approaches do not define candidate evolved emotions using the content of English folk models of emotions, but instead rely on conjoining adaptive problems with functional behavior regulation (Nesse & Ellsworth, 2009). Adaptationists employ grounded criteria by which to judge and predict the natural kind status of putative emotions – namely, reverse engineering (to get at potential function), task analysis (to predict design features), assessments of fitness contributions (especially in ancestral environments), comparison with non-human animals (for phylogenetic heritage and homology), and developmental and cross-cultural data (to assess reliability of development and functional phenotypic plasticity). Admittedly, adaptationist approaches to emotion too often start from Western lexical items

without familiarity with alternative parsings of the world, and without problematizing the use of Western terms (e.g., Tooby & Cosmides, 2008). However, this is a limitation of practitioners, not of theory or method.

2.3 Attitudes

Having defended an adaptationist, appraisal-based, discrete-functional-kinds view of emotions, I now turn to a distinct yet related class of affective phenomena. In standard frameworks, attitudes are like emotions in that they are intentional, or about particular objects, but are like moods in that they last longer – emotions are fleeting responses-in-context, while attitudes are enduring representations (Clore & Schnall, 2005). Despite such theorization, attitudes have generally played little role within the emotion literature. In some cases attitudes have been deliberately eschewed in favor of emotions as explanatory variables (e.g., Mackie & Smith, 2002). I see this as symptomatic of the generally impoverished notions of attitudes in the emotion literature, paralleling the attitude literature's under-appreciation of the functional diversity of emotions. Tellingly, several prominent emotion researchers have provided descriptions of attitudes under the term "sentiments," a legacy of a classic though largely forgotten debate in social psychology (see, e.g., Shand 1920; Allport 1935; McDougall 1937; Heider 1958). This may be one reason the emotion and attitude literatures remain mutually isolated – they are literally speaking different languages. In what follows I adopt the term "attitude" in favor of "sentiment" in an effort to explicitly link our approach to the modern attitude literature, although my meaning of the term is closer to the classic meaning of "sentiment". In this section I first review conceptions of attitudes in the emotion literature, and then sketch a social-functionalist conception of attitudes that foregrounds the interaction of

attitudes and emotions in adaptive relationship regulation. Throughout, I am concerned primarily with social attitudes, or attitudes about particular individuals, kinds of people, or groups; I leave open whether our arguments apply to attitudes more generally.

For emotion researchers, the most salient feature of attitudes is their enduring time course. Frijda (1994) sees sentiments, or "emotional attitudes" (64), as "dispositions to respond affectively to particular objects or kinds of event" (64). He argues that while emotions and sentiments "stand in a close and reciprocal relationship," (65), each leading to the other, they are distinguished by their temporal and "occurrent" aspects: whereas emotions (and moods) are "particular occurrent phenomena," namely feelings, perceptions, and motor responses, sentiments are enduring dispositions to experience those states vis-à-vis particular objects. Frijda states that sentiments are usually referred to as "likes" or "dislikes," and he nominates "love" and "hate" as "common emotion words that tend to refer to sentiments rather than emotions…Both words usually refer to ways of seeing and treating a given object rather than to momentary responses" (64). Frijda points out that sentiments can lead to emotions – they are "the bases for emotions when something happens in which the object is involved [and] they form the source of emotions with the same name when just seeing or meeting or hearing about the object" (64). He further suggests that sentiments have a similar structure to emotions: sentiments entail "cognitive dispositions to appraise" an object in the manner that leads to the corresponding emotion, and they involve "latent" motivations to treat the attitude object in the same way as the action tendency of the corresponding emotion.

While devoting considerably less space to the issue, Lazarus (1991) draws a similar distinction to Frijda (1994). Also equating the terms "sentiment" and "attitude," Lazarus characterizes an attitude as "not an emotion but a disposition to react with one" (47). He uses the

example of "dislike," and says that with such an attitude "we have a greater tendency to experience anger towards that person than toward another" (47). For Lazarus emotions "lie in wait" in the form of attitudes, and can be elicited merely by the presence or memory of the attitude object. Lazarus also implies that attitudes follow from previous emotions, as he says that the emergence of emotion from an attitude occurs vis-à-vis a "person who has previously provoked [the emotion]" (47). Like Frijda, Lazarus points out that the term "hatred" implies an attitude towards a person, "bordering on a trait or disposition rather than necessarily being an acute emotional reaction" (229).

Clore, Ortony, and colleagues (e.g. Clore & Ortony, 2008; Ortony et al., 1988) present a perspective in which stored evaluations functionally approximate attitudes as described by Frijda and Lazarus. They argue that emotions are intrinsically evaluative, and that the various components of emotions (affect, physiology, motives, facial expression) each represent evaluations in different channels; emotions proper occur when these various components simultaneously represent the same evaluative state. These authors suggest that affective responses can lead directly to emotional responses through a low-road "reinstatement mechanism" (2008: 633) laid down by previous emotional responses. For them, affect and emotion are "made of the same material…[but take] very different forms" after elaboration (2008: 638). In their discussion, Clore and Ortony cite prominent attitude research (i.e., Cunningham et al. 2007) as illustrating their low road account.

Averill (1991; Fridhandler & Averill, 1982) adds a twist to the attitudes-as-latent-emotions approach, arguing for a blurry line between the two constructs. For Averill, emotions can be fruitfully thought of as "episodic dispositions," states in which an occurrent, embodied emotional response waxes and wanes over time; on this account, the distinction between

emotions and attitudes is one of degree, not kind. According to Averill (1991), "long-enduring emotional states are often called 'sentiments' (cf. McDougal, 1936), in order to distinguish them from more acute reactions. It is important to emphasize, however, that no sharp dividing line separates short-term emotional states from long enduring sentiments" (147). Like other emotion researchers, Averill uses "attitude" and "sentiment" interchangeably.

Yet other scholars distinguish emotions from attitudes on the basis of the introspectively "cold" feel of attitudes, or the combination of low arousal and long duration. For instance, Russell and Barrett (1999) say "When extended over time, evaluation becomes an attitude and is assessed by asking how one generally feels about *X*. To illustrate this difference, evaluate the items on the following list: a delicious meal, cancer, a view of a sunset, a massacre during war, a triumph for your child, and slavery. Our question is this: Did your actual core affective feelings fluctuate with the same intensity as did your evaluation as you moved from item to item?" (815).

Scherer (2005) develops a more elaborate basis for distinguishing emotions and attitudes. He uses design features as criteria for drawing distinctions among various putative affective phenomena, including attitudes and emotions; these design features include relative event focus, appraisal basis (whether evaluation is intrinsic or relative to goals), response synchronization, rapidity of change, behavioral impact, intensity, and duration. On Scherer's account, attitudes are "relatively enduring beliefs and predispositions towards specific objects or persons" (703). Following the mainstream attitude literature, Scherer posits that attitudes have a tripartite structure composed of cognitive, affective, and behavioral components (Eagly & Chaiken, 1993). Like Frijda and Lazarus, Scherer nominates "hating," "valuing," "desiring," and "loving" as labels for attitude states. He explicitly discusses "love" as an attitude with a "strong positive affect component," that implies a "long-term affective disposition," and which "can produce

strong and complex emotions" (704-705) vis-à-vis its object. Curiously, then, Scherer argues that attitudes have low appraisal relevance and low behavioral impact, in contrast to the high appraisal relevance and high behavioral impact of emotions.

There is value in aspects of each of these approaches. Attitudes are more enduring and introspectively more cold than emotions, and they functionally dispose emotions in some contexts. However, there is an even more compelling functional framework for distinguishing emotions and attitudes in an early but rarely cited account of emotions in social relationships. While Frijda, Lazarus, and Averill see sentiments and attitudes as enduring or latent emotions, one of the first academic uses of the term viewed sentiments as higher-level representations that organized multiple emotions with respect to their objects. Shand (1920) presented a remarkably modern framework for thinking about individual differences in behavior, what he termed character. He distinguished three levels of character: instincts, or simple impulses; emotions, or systems of feelings, bodily actions, and instincts organized to achieve ultimate evolutionary ends; and sentiments, which organize and direct emotions across situations with respect to particular relational objects. For Shand, the role of sentiments in moderating emotions across situations was primary to their contribution to character. He foregrounded "the complexity of a sentiment – the number of emotions that enter into it, the variety of situations that affect it, the corresponding variety of its thought and conduct, and consequently the multiplicity of its qualities" (122), while emphasizing the structured, functional organization of this complexity. Like Scherer and Frijda, Shand sees "love" as more than an emotion, as "one of those greater systems or sentiments which organize the lesser systems of emotions" (45). In contrast to more recent treatments, Shand appreciates the complexity of the emotional outcomes that accompany love: "Love, therefore, cannot be reduced to a single compound feeling; it must organize a

number of different emotional dispositions capable of evoking in different situations the appropriate behavior" (56).

Royzman et al. (2005) take inspiration from Shand (1920) and argue that hate, like love, is best understood as a sentiment: "[H]ate and love are not single emotions or blends of emotions but dispositions to experience many different emotions, depending on the fortunes of those loved and hated. Both caring-attachment ("love") and inverse caring-attachment ("hate") represent syndromes of episodic dispositions that go with motivational orientations tracking and reacting to the fortunes of significant others (individuals or groups who occupy a special place in our lives, positively or negatively)," (23). Royzman et al. also cite Ekman (1992), who says of emotional attitudes relative to emotions that they are "more sustained and typically involve more than one emotion," (194).

What this approach adds to the discussions of Frijda, Lazarus, Ortony, and Scherer is an emphasis on the role of attitudes in moderating the emotional significance of many different events within a given social relationship. Most authors use proximity as a kind of default social event in which particular emotions upsurge (Frijda, 1994; 64) from their corresponding attitudes ("love" from "love," "anger" from "hate," etc.). But in the approach of Shand (1920) and Royzman et al. (2005), rather than being a single latent emotion awaiting reinstatement given perception of the attitude object, attitudes instead pattern emotions across contexts to regulate social relationships. A negative attitude such as hate can potentiate a positive emotion like joy at another's suffering, while a positive attitude such as love can potentiate a negative emotion like grief at another's death -- there is no simple one-to-one correspondence that depends on previous association for emotion elicitation. Instead, there is a grammar of emotions within relationships as they result from the interaction of attitudes and social events. This perspective holds the key to

understanding the ultimate functions of social attitudes. It also points to a patterning of emotions within social relationships that has rarely been explored by emotion researchers, the majority of whom emphasize the discreteness and proximate causation of emotional responses.

2.4. The Functions and Diversity of Social Attitudes

Positing a functional role for social attitudes in potentiating social emotions dovetails with the recent trend in the study of emotion, discussed earlier, that emphasizes the social functions that emotions serve. Yet, surprisingly, attitudes have figured little in the social functionalism of emotion researchers. More generally, the ultimate functions of social attitudes have not been theorized – in the existing literature, there is no evolutionary psychology of attitudes. This may be because, on first inspection, this construct does not pick out any coherent functional entity or class of entities, appearing instead to have been hatched from a folk concept, and to continue to carry baggage from that origin. To the adaptationist, much of the attitude literature may be too domain-general, as it has applied a broad notion of evaluation to all objects, people, places, and ideas, treating the axis of attitudinal variation as unitary and bipolar, from "good" to "bad," from "liking" to "disliking." The dominant approach to the structure of attitudes has been the tripartite model that includes affective representations (e.g., prejudice), cognitive representations (e.g., stereotypes), and behaviors (e.g., discrimination) (see Breckler, 1984; Eagley & Chaiken, 1993; Rosenberg & Hovland, 1960). Yet these three channels are generally treated as equally evaluative and unidimensional. Even the recent turn towards implicit attitudes (e.g., Greenwald & Banaji, 1995) maintains the focus on simple liking and disliking. Despite being methodologically sophisticated and causally reductionist, attitude researchers have rarely attempted to carve nature at its joints, and most theories in the attitude literature do not

accord with the tenet of functional specialization (Barrett & Kurzban, 2006) within evolutionary psychology (though see Cacioppo et al., 1999). Tellingly, a number of researchers studying social relationships from a functionalist perspective have recently jettisoned attitudes –namely, liking and disliking – as explanatory constructs in favor of the greater variance in behavior explained by discrete emotions (e.g., Cottrell & Neuberg, 2005; Cuddy et al., 2007; Mackie et al., 2000; see Mackie & Smith, 2002).

These concerns are legitimate, but they do not rule out utility for the attitude construct. Functional considerations can serve as a foundation for enriching the construct and integrating attitudes into evolutionary psychology and social-functionalist approaches to emotions. The venerable attitude literature has continually questioned the nature of its own constructs and defined and redefined "attitude" across the years (Allport, 1935; Eagly & Chaiken, 1993; see Gawronski, 2007). Offering principled grounds for the construct, a functionalist approach to attitudes can both explain the form of attitudes and provide insight into the relationship between attitudes and emotions.

I suggest two changes to the way that attitudes have traditionally been conceptualized, changes that render the construct a useful one for a social-functional approach to emotions: 1) a reframing of social attitudes in terms of the functional role they play in representing the values of relationships, and in moderating emotions within them; and 2) broadening the content of attitudes to include more attitude dimensions than traditionally recognized, corresponding to the diverse adaptive problems presented by social relationships (e.g., Bugental, 2000; Fiske, 1991; Kenrick et al., 2010; Tooby et al., 2008).

First, to advance a truly *social* functionalist approach to attitudes, I highlight their role in meeting an underappreciated task demand of regulating emotions and behavior within social

relationships. Adaptive behavior within a relationship, and adaptive emotion elicitation vis-à-vis particular relational threats and opportunities, requires some representation of the target individual that encodes or proxies the fitness affordances (threats and opportunities) that they present to self. Anyone can approach, help, hurt, or die. But the fitness implications of such events to another person depend on who is involved – on whether they are kin, ally, potential mate, stranger, or enemy, and on the fitness values to self that such categories imply. To speak of "loss" makes sense only with respect to someone represented as valuable; "separation distress" makes sense only with respect to someone represented as a source of protection; and so on. Moreover, the relevant attributes are the fitness affordances presented by another person with respect to one's own traits, resources, and current state, rather than with respect to any objective properties of that person. As a number of authors have pointed out (e.g. Cottrell et al., 2007; Fiske et al., 2007; Tooby & Cosmides, 1996; Tooby et al., 2008), a given trait in another, such as their strength or attractiveness, can mean very different things to someone depending on both their own traits and their role with respect to that other person. Finally, known threats and opportunities are often grounded in past interaction, in the skills, propensities, and attitudes of others as revealed through their previous behavior. This implicates enduring yet tentative summary representations in commuting the past into the present for the sake of adaptive behavior regulation.

If social emotions are adaptive responses to fitness-relevant social events, and if the fitness relevance of social events depends on the fitness relevance of the relationships within which they occur, then social emotions ought to be contingent on representations that track relationships in terms of their fitness relevance. Moreover, representations of another's fitness relevance to self will be functional only insofar as they 1) track reliable cues to different value

states along some affordance dimension, and 2) moderate other systems – be they goals, attributions, or emotional propensities – in ways that would tend to relatively increase fitness given those cued affordances. I suggest that attitudes can be conceptualized as serving these functions: tracking, proxying, or representing cued fitness relevance in order to moderate other systems (importantly including emotions) in the service of behavior regulation. On this account, attitudes are actually the anchors of relational commitment, as they represent relationship value and moderate the emotions that implement subjective commitment (Fessler & Quintelier, in press) to that value; that is, commitment emotions should hinge on attitudinal representations (cf., Fiske, 2002; Gonzaga et al., 2001).

This general approach is not without precedent. Tooby and colleagues (2008) attribute the function of value representation to what they call internal regulatory variables (IRVs), "registers…whose function is to store summary magnitudes…that allow value computation to be integrated into behavior regulation…[T]hey are indices that acquire their meaning by the evolved behavior-controlling and motivation-generating procedures that access them" (253). For Tooby et al., IRVs are not unique to psychological systems – functionally, "they are key features of every feedback-regulated process in multicellular organisms" (253) – but they do play a key psychological function in commuting past appraisals into current behavior regulation, in part by moderating emotional responses. Tooby et al. propose that, just as IRVs are ubiquitous across levels of the biological hierarchy, they are also ubiquitous across levels of the mind, operating in hierarchical systems that aggregate and summarize magnitudes at higher levels as a function of outputs from lower levels, down to the systems that interface with the environment.

Tooby and colleagues have focused their research on several proposed IRVs that they suggest play a critical functional role in human social behavior. Among these is the kinship

index, a putative proxy of relatedness (i.e., the value of Hamilton's [1964] *r*). This IRV uses ancestrally reliable cues of the degree of relatedness (e.g., childhood coresidence, maternal perinatal association) and provides output to other IRVs that regulate sexual motivations (to avoid inbreeding) and altruistic motives (to increase inclusive fitness) (see Lieberman et al. 2007). Another proposed IRV, which receives input from the kinship index and many other sources, is the welfare trade-off ratio (WTR), "an internal regulatory variable signifying how much weight an individual actor places on [an other's] welfare relative to the actor's own" (Tooby et al., 2008: 258). This index is thought to summarize relationship value as a function of the various pathways through which one can obtain fitness benefits by trading off one's own fitness against an other's – for instance, kinship, cooperative breeding, reliable and irreplaceable coalitional partnership and other mutualisms, asymmetric dependence on an other for protection or leadership in between-group competition, and so on (see Tooby & Cosmides 1996, 2008; see also Hamilton, ibid.; Trivers, 1971; Roberts, 2005; West et al., 2007; Wilson, 2008). The WTR is implicated in the functioning of a number of emotions, including not only those that implement prosociality, but also those hypothesized to recalibrate either one's own WTR towards an other (i.e., "gratitude") or an others' WTR towards oneself (e.g., "anger"; Sell et al., 2009).

Tooby et al. (2008) consider IRVs to be a novel kind of computational entity absent from the pantheon of social psychological constructs: "These internal regulatory variables are not traditional theoretical entities such as concepts, representations, goal states, beliefs, or desires" (253). However, given that IRVs putatively function in computational systems as intervening variables the magnitudes of which scale with particular features of the world (or with other variables tracking such features), IRVs are indeed a class of representations. Moreover, the subset of such variables that operate at a relatively high level in the representation of social

relationships approximate what some social psychologists have labeled attitudes: enduring summary evaluations of other people (Fazio 2007). In addition, there is a precedent for the postulated role of internal regulatory variables in moderating emotions – both in the view of attitudes as latent emotions (e.g., Frijda, 1994; Lazarus, 1991), and, more clearly, in the view of attitudes as emotional syndromes sketched by Shand (1920) and developed by Royzman et al. (2005). Proposing that some IRVs are attitudes complements Tooby et al.'s IRV framework insofar as attitudes are IRVs manifested at a particularly functional (and introspectively salient) level of the social mind. The subterranean, hierarchical structure of IRVs still has a place in modeling the processes by which attitudes are formed and changed. However, for many purposes, "attitude" is a preferable construct to "IRV," because it explicitly connects to a vast and potentially useful extant literature.

Characterizing the ultimate function of attitudes in terms of tracking an other's fitness affordances entails a second elaboration on the attitude construct: the dimensionality of attitudes must be expanded to correspond to the diverse fitness affordances that attitudes track. Tooby and colleagues (Tooby & Cosmides, 2008; Tooby et al., 2008) argue that functional incompatibility among the systems subserving different adaptive problems implies that there must be numerous IRVs -- distinct fitness affordances in the environment must be processed and responded to by different psychological systems (see also Tooby et al., 2005). A number of other authors develop the premise that the social world presents many distinct fitness threats and opportunities that cannot be collapsed into a single summary representation of liking or disliking, goodness or badness. Bugental (2000) argues that there are five domains of social life, which she terms attachment, hierarchy, reciprocity, coalitional groups, and mating. Each of these domains presents its own functional affordances and adaptive problems, and each therefore requires its

own suite of specialized socio-emotional response contingencies. Keltner et al. (2006) list divergent opportunities and problems solved by discrete emotions that cluster into similar domains. Kenrick et al. (2010) likewise propose a number of distinct evolutionary needs, corresponding to different domains that entail unique fitness threats and opportunities; some needs are social, including affiliation, mate acquisition, and parenting. Kenrick et al. note that, even within the domain of affiliation, there are different kinds of relationships -- such as romantic relationships, friendships, and family ties -- that present distinct adaptive problems, and therefore require specialized emotional adaptations. Kurzban and Leary (2001) analyze the various negative relational affordances underlying stigma in terms of distinct relational problems that are subserved by different proximate mechanisms. Neuberg and Cottrell (2008) summarize why distinct social affordances need to be separately tracked and integrated into relational behavior.

The adaptationist reasoning of these authors is supported by suggestive evidence from the attitude literature and beyond that there are more attitude dimensions than has been traditionally assumed. This includes data supporting orthogonal positive and negative attitude dimensions (Cacioppo et al., 1999), distinct dimensions of "liking" and "respect" for tracking affiliation and efficacy, respectively (Wojciszke et al., 2009; see also Fiske et al., 2007; White, 1980), and evidence of four or five different positive forms of regard (e.g., infatuation, respect, attachment, and liking) as revealed in a hierarchical cluster analysis of ratings of English feeling terms for their appropriateness in different relationships (Storm & Storm, 2005). This last finding resembles Bugental's (2000) and Keltner et al.'s (2006) proposed relational domains, as well as Haidt and Graham's (2007) postulated moral foundations. Moreover, as we have seen, those emotion researchers who have addressed attitudes often propose some beyond "liking" and

"disliking" -- including "love," "respect," and "hate" (Frijda, 1994; Lazarus, 1991; Scherer, 2005; see also Royzman et al., 2005).

By integrating these inductive and deductive approaches, it is possible to stipulate a provisional set of social attitude dimensions that correspond to distinct social-relational affordances. A given value on one of these dimensions has the functional role of proxying a magnitude of that affordance and moderating behavior regulation systems, including emotions, accordingly. I suggest a provisional set of social attitude dimensions that includes the positive dimensions *love, liking*, and *respect*, and the negative dimensions *hate* and *fear*; although I appropriate English terms for these systems, the folk meanings of these terms serve only as intuitive anchors, and do not capture the precise functional roles stipulated. The three positive dimensions correspond to different positive fitness affordances: fitness dependence on an other, alignment of own interests with an other's, and an other's efficacy, respectively. The negative dimensions correspond to distinct kinds of threat or cost imposition, *hate* tracking an other's zero-sum advantages relative to self in competition for resources (including social capital), while *fear* tracks an other's intention and ability to inflict material or physical costs on oneself. Each of these dimensions can range in value from nil to high, and each is named for its high value. However, the absence of value on a dimension may be functionally significant, and may be linguistically marked or otherwise psychologically or socially salient. Below I make this case for an absence of *respect*, which I partially identify with "contempt."

By hypothesis, a given value on each attitude dimension potentiates a unique syndrome of emotional dispositions towards its object. These syndromes follow from the involvement of attitude objects in various events, where each attitude-by-event interaction creates an adaptive problem addressed by a particular emotion. Such events might include an other's approach,

achievement, misfortune, or death, injuring them oneself, their witnessing one's own transgression, and so on. Each of these events has very different fitness implications depending on how the person involved is valued, and should thus evoke different emotions. A functional chain connects the antecedent information that sets an attitude value, the relational affordance thereby proxied by that value, the adaptive problem cued by the involvement of that relation in a particular event, and the apt regulatory response (i.e., emotion) to that adaptive problem. For instance, if *love* proxies relational dependence as cued by frequent resource receipt, then the death of a loved one should lead to a response that can solicit social support to mitigate that potential fitness decrement (e.g., sadness; Keller & Nesse, 2006). Likewise, if *hate* proxies an other's advantage in zero-sum resource competition as cued by their monopolization of resources, then misfortune befalling a hated one should evoke a positively reinforcing response (e.g., *schadenfreude*; Hareli & Weiner, 2002; van Dijk et al., 2006). One overarching function of the emotional syndrome of each attitude is to implement commitment to the value of the relationship represented by that attitude – positive attitudes regulate emotions to sustain those valuable relationships, while negative attitudes regulate emotions to minimize the costs of, and maximize the benefits extracted from, those relationships.

For the present purposes, *respect* warrants particular attention. The term "respect" has a number of meanings (Langdon, 2007), but I capture most of these in using it to designate an attitude dimension that tracks an other's practical and moral efficacy in domains that are relevant to the evaluator (S. Fiske et al., 2002; Wojciszke et al., 2009). Minimal respect implies that the other meets minimal standards of efficacy; these standards may be subjective, defined relative to one's own goals, abilities, and social options, or they may be generalized to the broad criterion of being a functioning member of society whose actions meet normative standards for a given

social role. Ultimately, I interpret minimal respect as an attitudinal strategy that facilitates the formation of mutualisms with efficacious individuals (see also McClelland, 2011). It does this by proximately motivating tolerance of, and interest in, an other's continued functioning, facilitating prosocial emotions (e.g., compassion, guilt, and shame) that foster engagement with, and mitigate harm done to, an other. Increasing levels of respect track an other's relative expertise in relevant cultural domains, which makes the other an increasingly valuable source of cultural information and positive externalities. While minimal respect engenders tolerance and interest in an other's continued functioning , increasing respect motivates increasing concern, deference, imitation (Henrich & Gil-White, 2001), and followership (Van Vugt, 2006). The difference between, and interaction of, minimal and effusive respect is demonstrated in the Authority Ranking (AR) relational model of Alan Fiske (1991; Haslam 2004; see also Rai & Fiske 2011). In an AR relationship, effusive respect is directed upwards at a superior and is associated with support, deference, followership, and propitiation. The superior, in contrast, takes precedence and may give directives. However, the superior must also keep the interests of the subordinate in mind, and demonstrate a certain level of *noblesse oblige* and pastoral responsibility lest his power become illegitimate. Continued engagement down the hierarchy may be motivated by minimal respect, and would be undercut by its loss. An indifferent or exploitative superior, in turn, would demonstrate a moral failing, which would undercut respect, deference, and support up the hierarchy. As I will argue, respect is lost when others fail to demonstrate practical or moral efficacy, and the resulting loss of tolerance, interest, and concern maps closely onto the outcomes associated with "contempt." Note, however, that a dyadic asymmetry in efficacy, and resulting asymmetric respect, can produce the asymmetrical motives and cognitions ascribed to AR without the need for a top-down relational model.

2.5 The Functional Relationships of Emotions and Attitudes

I argue that the most significant difference between emotions and attitudes is their functional role: they operate at different levels, with their forms following their different functions. While emotions are situated reactions that address particular events, attitudes are representations that track the affordances of particular people or objects. Emotions and attitudes are also reciprocally related (Frijda, 1994): emotions influence or recalibrate (Tooby et al., 2008) attitudes, while attitudes inform the meaning of events and moderate emotion systems therein. This perspective raises important questions about the role of attitudes in appraisal processes, and about how emotions influence attitudes.

To date, few have explored how attitudes articulate with the appraisal processes theorized in the emotion literature. In several influential structural appraisal theories of emotion (e.g., Ortony et al., 1988; Scherer, 1984, 2009; Smith & Ellsworth, 1985; see Scherer, 1999 for a comparison), the valence or intrinsic pleasantness of a stimulus is among the handful of appraisals that conspire to produce differentiated emotional responses. While these authors do not explicitly implicate attitudes in their appraisal theories, the valence of stimuli potentially cleaves closely to the evaluative representations studied by attitude theorists. Yet, appraisal theorists do not typically grant much consequence to the valence of a stimulus (e.g., Scherer, 2005), foregrounding instead the conduciveness of the stimulus-in-context to one's momentary goals and state. For example, Scherer (1984) cites the pivotal impact of hunger levels on one's reaction to an offer of cake, even though one can report that one "likes" cake irrespective of hunger level. While accurate, this example may merely illustrate that attitudes do not always result in simple emotional "reinstatement," such as liking producing wanting or happiness.

Instead, attitudes interact with contexts (both internal and external) to produce emotions – liking may potentiate happiness under some circumstances, but it may also potentiate anger or sadness under different circumstances.

Attitudes may play a more direct role in appraisal by coordinating goals or more proximate motives vis-à-vis attitude objects. As Frijda (1994) puts it: "Sentiments indeed often can be described as desires. Love, for instance, has been defined as the desire to increase the well-being of the object (Scheler, 1923)" (65). Shand (1920) likewise argues that sentiments organize goals with respect to their objects and thereby potentiate different emotions across different events involving those objects. Attitudes, then, may be pivotal in front-end appraisal processes and interact with the other affordances of contexts to produce differentiated emotions.

Ascriptions of causal locus provide yet another, more downstream, opportunity for attitudes to influence appraisal processes. A number of studies have demonstrated that attitudes towards others influence ascriptions of intent for behaviors with different outcomes (e.g., Guerin, 1999; Hymel, 1986; Peets et al., 2008). That is, attitudes appear to bias interpersonal attributions of behavior causation, often in affect-congruent ways – liking biases ascriptions of intent for favorable outcomes, while disliking biases intent ascriptions for unfavorable outcomes. The existence of other attitude dimensions suggests the unexplored possibility of even more textured attribution biases as a function of attitudes. I would also highlight the potential role of attitudes in influencing attention and perspective-taking. While not studying attitudes explicitly, Batson and colleagues (2007) have shown that valuing the welfare of an other has a positive influence on empathic concern and helping, perhaps through direct effects, but at least by partially mediating perspective-taking. Following Tooby et al. (2008), I see regulating welfare valuation as an important function of social attitudes.

Considering how attitudes articulate with emotion-eliciting appraisals should inform relational models of appraisal (see Smith et al., 2006; Smith & Kirtby, 2009),which attempt to specify the information that influences appraisal processes. Smith et al. (2006) lament that "little attention has been devoted either to specifying the type of situational and personal information that is drawn on in making the appraisals, or how this information is combined to produce appraisal outcomes" (90). The above considerations suggest that attitudes may ramify through appraisal processes, holding greater appraisal relevance than Scherer (2005) or others have supposed.

The relationship between attitudes and emotions is bidirectional. The latent-emotion approaches to attitudes strongly suggest that emotions influence attitudes. Frijda (1994) notes the reciprocal relationship of emotions and attitudes, while Lazarus (1991) suggests that, as latent emotions, attitudes are associated with people who previously evoked a given emotion. Likewise, Clore and Ortony (2008) describe a mechanism wherein past emotions are laid down as stored evaluations to be activated again by the attitude object. These authors argue that emotions should influence attitudes in a systematic way, as both are evaluative and object-directed, emotions providing relevant information for attitudes "if the cognitions or sensations [of emotion] are related to the attitude object," (Schimmack & Crites 2005, 411). As we have seen, Tooby et al. (2008) argue that emotions recalibrate representations of value in light of the information that elicits emotions, while Baumeister et al. (2007) foreground the role of emotions in feeding back on representations of the people who elicit emotions, thereby influencing behavior indirectly and downstream. Yet, despite this consensus, Schimmack and Crites state that "there exists no research on [the] question" (411) of when mood effects on judgment will have lasting effects on attitudes, and this appears also to be case for the effects of emotions on

attitudes – especially if attitudes are conceptualized as representations with relations to many different emotions, not merely as latent discrete emotions.

2.6 Attitude Concepts

Our goal in distinguishing emotions and attitudes as distinct functional kinds that interact to regulate social-relational behavior has been to provide a foundation for making sense of the systems conventionally labeled "contempt." I have adopted an approach to emotions that proposes reliably-developing modal emotions (Scherer, 2009) characterized by adaptive conjunctions of appraisals and coordinated changes in various organismic systems. I have characterized attitudes as enduring representations of the fitness affordances of others, with a number of orthogonal attitude dimensions responding to different cues and regulating different behavioral systems (Cacioppo etal., 1999; Tooby & Cosmides, 2008). Importantly, a given attitude dimension or value can be influenced by multiple emotion systems, and can also moderate multiple emotion systems across relational contexts. Attitudes imply a "syndrome of emotional dispositions" (Royzman et al., 2005) conditioned on social-relational events, and hence a systematic patterning of emotions within relationships (Shand, 1920).

For our purposes, the upshot of this analysis if that an affect concept can incorporate any portion of the functional network linking emotions and attitudes. An emotion concept can differentially emphasize the components and contexts of one or more emotions (Niedenthal, 2008; Russell, 1991a), an attitude concept can differentially emphasize multiple emotions and the contingencies that pertain among them, and in general an affect concept can be located anywhere on this landscape, from pure emotion concept to pure attitude concept to the intersections among these. Affect concepts are constrained by embodied experiences (Lyon,

1996; Niedental, 2008), which are grounded in causal and temporal contingencies in socio-ecological contexts (Lutz & White, 1986; Kitayama & Markus, 1994) and functionally-organized behavior regulation systems (Levy, 1984; Tooby & Cosmides, 2008; Scherer, 2009). The contents of affect concepts should thus be able to drift (or be driven) across the network of underlying systems (Haslam & Bornstein, 1996), just as they can be influenced by cultural interpretive resources, variation in the patterning of events, contexts, or relationships, and normative expectations and consequences. For example, understandings of "love" may emphasize a range of emotions, including romantic attraction, appreciation, contentment, compassion, anger, sadness, guilt, and longing, as well as relational commitments and obligations, all of which are causally linked to an attitude state that indexes relational dependence (cf. Royzman et al., 2005; Shaver et al., 1996; Storm & Storm, 2005). Moreover, these different aspects of the syndrome of love may be more or less salient depending on the implications of love fostered by local social or ecological contexts -- in an environment of vulnerability, love may imply compassion and loss more than romance and contentment (see Lutz, 1988). Communal or interdependent cultural contexts may likewise emphasize relationships and their regulation at the expense of individual phenomenology (Markus & Kitayama, 1991; White & Kirkpatrick, 1985), potentially encouraging a conceptual emphasis on attitudes and their relational consequences at the expense of the subjective experience of emotions – for instance, love as relational obligations, not momentary bliss or longing. One methodological implication of this is that researchers may be able to probe an affect concept for either its emotional or attitudinal components. Importantly, the way in which the term is probed should determine which aspects of the schema are activated and used as grounds for reported answers.

"Contempt" as a lexical item is a cultural model that subsumes a variety of causes, situations, and outcomes associated with particular emotions and attitudes. The results of previous studies of "contempt" lead us to infer at its core an attitude state that I will flesh out below. Yet, almost without exception, "contempt" has been studied as an emotion, probed for antecedents, feelings, action tendencies, and facial expressions (i.e., the hypothesized components of emotions; Frijda et al., 1989; Rozin et al., 1999), with little attention to the downstream consequences of "contempt" across contexts. "Contempt" may resemble emotions like "anger" and "disgust" because these bear salient functional connections to an attitude that is being studied as an emotion, thereby highlighting its linked emotion systems, but this does not constitute evidence that contempt is functionally coextensive with these emotions, nor that they share a common phylogenetic or ontogenetic origin. Study "contempt" like an emotion and you may be studying the emotions most closely linked with an attitude so labeled.

3. The Features of "Contempt"

Contempt has been the subject of scant research compared to other emotions and affective phenomena (Haidt, 2003). Frequently, when contempt is studied, it is explicitly confounded with other putative emotions, such as disgust and hate (e.g., Mackie et al., 2000; Cuddy et al., 2007). Moreover, as often as investigators have studied the relationship of the term "contempt" to facial expressions and antecedent events, others have merely stipulated in passing that "contempt" is X or Y. It can be unclear whether scholars are describing the meaning of "contempt" to most English speakers, stipulating a meaning, or revealing some Platonic insight into the phenomenon (see Royzman et al., 2005). In any case, treating contempt scholars as

English-speaking participants renders their opinions valid data points in mapping the contours of the corresponding schema.

Given the patchy literature on contempt, a delineation of the features associated with the term is necessarily a patchwork. No one feature has been reliably established, and only recently have competing claims begun to be adjudicated empirically. What I report below is a summary of the meanings of "contempt" described in the literature, filtered through categories useful when considering the functional kinds at issue. I describe eight features that any account of "contempt" must explain (Table 1.01). However, a ninth feature could be included: the apparent disequilibrium, or perhaps functional variation, of the meaning of "contempt" itself (Haidt & Keltner, 1999; Matsumoto, 2005; Rosenberg & Ekman, 1995).

3.1 Contempt is intentional or about an object

Perhaps it goes without saying that contempt is directed towards a particular object or class of objects, since both emotions and attitudes are considered to be object-focused (Clore & Schnall, 2005). However, this seems to be even truer of contempt than of other putative emotions. I know of no evidence that contempt can be primed or misattributed in the manner that disgust (e.g., Wheatley & Haidt, 2005) and anger (e.g., Neumann, 2000; DeSteno et al., 2004) can be. In at least one study, levels of reported contempt were insensitive to different primes (Tapias et al., 2007), although this may have been to be expected given that both primes involved minority outgroups (see below).

A number of authors have noted that contempt works to "mark" or "tag" others as inferior or worthless (e.g., Fessler & Haley, 2003; Hutcherson & Gross, 2011), inhering in representations of those objects more than in a diffuse mode of operation in the perceiver.

Analyzing the way in which "contempt" is used in discourse, Mason (2003) argues that contempt is person-focused, inherently oriented towards, or attached to the representation of, a contemptible person. Contempt appears to require an object to be experienced.

3.2 Contempt is an enduring evaluation of a person

Few have directly studied the duration of contempt, as most researchers have focused on its antecedents, expressions, and motivations or behavioral tendencies. However, to the extent that duration has been addressed, authors tend to agree that contempt entails a relatively enduring, possibly even permanent, change in attitude with respect to its object.

Sternberg (2003), discussing the contribution of contempt to hate, notes that the component of hate grounded in contempt "typically grows and fades slowly" (309). Fischer and Roseman (2007) suggest that contempt "may typically be a less intense but longer-lasting emotion [than anger], implying more negative and permanent changes in the beliefs about another person" (103). In the studies of Fischer & Roseman, contempt actually grew in strength "after some days" following events that involved contempt but not anger (Study 1), and short-term anger often gave way to longer-term contempt in incidents in which participants reported wanting to stay away from another person (Study 3). Hutcherson and Gross (2011) state that, like disgust, but in contrast to anger, "contempt may encourage a focus on a person's intentions and dispositions, leading to more stable, longer lasting attributions concerning a person's character" (721). They found that participants often explained the undesirability of being the object of contempt relative to anger in terms of its duration or difficulty of resolution; this justification was also sometimes given when comparing contempt to moral disgust.

Many investigators hold that contempt follows from enduring beliefs or attributions about temporally-stable character traits. Roseman (2001) distinguishes anger and contempt according to the appraised problem type, where the problem underlying contempt is intrinsic, stemming from the type of person under consideration. Mason (2003) argues that "the person or group of persons is regarded as being in themselves contemptible, in virtue of some quality that defines a more enduring aspect of their identity—that is, something that approaches the level of generality of a character trait" (247). Fischer and Roseman (2007, Study 3) found that contempt for an act of public intoxicated irreverence is associated with a more dispositional attribution of the behavior, and with less control over the behavior, than is anger, features that suggest enduring evaluation.

3.3 Contempt follows from cues to low relational value

Contempt is generally held to be a negative evaluation of another person (Wagner, 2000). However, a number of scholars have documented more specific antecedent causes for contempt. These include an other's violations of a community ethic (Laham et al., 2010; Rozin et al., 1999), incompetence (Hutcherson & Gross, 2011), immorality (Fiske et al., 2002), intrinsic badness (Fischer & Roseman, 2007), and out-group or minority status (Brewer, 1999; Izard, 1977; Mackie et al., 2000).

Building off the tripartite theory of moral domains developed by Shweder and colleagues (Shweder et al., 1997), Rozin et al. (1999) suggest that contempt follows an other's violations of the ethics of community – rules and expectations that regulate an interdependent community by defining membership criteria, roles, duties, and asymmetries of power and respect. Across multiple studies in America and Japan, Rozin et al. showed that both the term "contempt" and

the facial expression previously linked with "contempt" (Ekman & Friesen, 1986) were associated with scenarios classified as violations of community, including role, duty, and hierarchy violations. Similarly, Laham et al. (2010) found that community violations elicited more contempt than anger, and autonomy violations (violations of rights and justice) more anger than contempt, although autonomy violations elicited more contempt than did community violations.

Hutcherson and Gross (2011) suggest that contempt follows from the "threat" posed by an other's incompetence, specifically the "risks" of wasting time or resources on them. In several studies, they found that contempt was rated highly in response to incompetence scenarios, although less so than were pity and amusement, and no more so than was anger. They also re-interpreted violations of community from previous studies in terms of failures of social competence. Yet, given their mixed results, Hutcherson and Gross conclude that incompetence may be "only one of a number of necessary eliciting appraisals" for contempt, "including but not limited to judgment of moral laxness, an unsympathetic nature, or a competitive relationship to the perceiver" (733).

On these latter points, Susan Fiske and colleagues (Cuddy et al., 2007; Fiske et al., 2002) have shown that contempt, as a label for a cluster of emotions including contempt, disgust, hatred, and resentment, is reserved for out-groups that, as a result of conjoint structural relations of competition and low status, are perceived as neither warm nor competent. However, Caprariello et al. (2009) found that the only kind of out-groups *not* subject to some contempt (a composite of "contempt" and "disgust") evince low competition and high status, being seen as warm and competent – the default attributions for in-groups. This research complements and extends the argument that contempt is a primary attitude directed at out-groups, especially when

perceived competition, superiority, and in-group strength pertain (Izard, 1977; Brewer, 1999; Mackie et al., 2000).

Finally, Fischer and Roseman (2007) found that events retrospectively reported to involve "a fair amount of contempt toward a person, but hardly any anger" (105) entailed blame directed at the person, seeing them as bad, and perceiving little control over their actions. In another study they found that current contempt was predicted by the frequency of past anger in a relationship. For reasons discussed below, I suggest that Fridhandler and Averill (1982) found very comparable results – in which contempt resulted from unresolved anger and attributions of shortcomings to a formerly valued relationship partner – even though these authors do not mention contempt by name. Smith and Ellsworth (1985) found contempt associated with attributing blame to someone for bad behavior within a relationship.

While contempt has thus been associated with various causes at interpersonal and intergroup levels – including diverse moral violations, failings or inefficacy, relationship transgressions, and membership in a low-status out-group – these causes have in common that the actor or group implicated in each case is revealed as a low-value or even worthless relationship partner (Fessler & Haley, 2003). This may follow from their unpredictability, unreliability, inefficacy, impoverishment, incompatibility, or threat. To be sure, the perceptible conditions that cue these attributions likely vary in cue validity, and some may entail additional responses beyond contempt; I suggest that this is part of the reason that contempt variably co-occurs with anger, disgust, and other emotions (see below). Nonetheless, contempt is implicated in all these cases because, as cues to relational value, they suggest, minimally, that relational investment is not, or is no longer, profitable. Less clear is whether, or when, each of these causes is alone sufficient for contempt.

3.4 Contempt entails loss of respect and status diminution

Following from the social conditions just described -- interpretable as cues to another's low relational value -- contempt emerges as a two-part representation of that low value: respect for the other is lost, and the other is viewed as beneath oneself. Together, these undergird subjective devaluation. I discuss these dimensions jointly because they appear to constitute concomitant changes in affective and cognitive representations, respectively, linked aspects typical of an attitude (Eagley & Chaikan, 1993).

Noting that it involves both a cognitive and an affective component, Mason (2003) describes contempt as the "apparent antithesis of respect," and as "presenting its object as low in the sense of ranking low in worth as a person in virtue of falling short of some legitimate interpersonal ideal of the person" (241). Haidt (2003) also captures both of these features when he says that "contempt seems to cause social-cognitive changes such that the object of contempt will be treated with less warmth, respect, and consideration in future interactions. Contempt paints its victims as buffoons worthy of mockery or as nonpersons worthy of complete disregard," (858). Supporting these descriptions, Haslam (2006) notes that contempt is associated with "animalistic dehumanization," or denying uniquely human attributes to others. Such infrahumanization is promoted by a lack of respect (Leyens et al., 2007), and, by definition, involves seeing an other as below oneself. Likewise, Sternberg (2003) views contempt as entailing "cognitions of devaluation and diminution," which often lead to "viewing the target as barely human or even as subhuman" (308).

As indirect evidence that contempt entails decreased respect, Laham et al. (2010) found that high scores on a "Respect for Persons" individual difference measure predicted reduced

contempt (and anger) reactions to violations of community, especially for Indian (but not British) participants' ratings of contempt for community transgressions. Additionally, the joint findings that respect follows from efficiency and competence (Wojciszke et al., 2009), and contempt follows from their absence (Hutcherson & Gross, 2011), suggest that respect and contempt are inversely related.

The inverse relationship of contempt and respect is further suggested by the contrasting conceptual metaphors associated with these terms: respect often implies "looking up to" someone (Fiske, 1991), while contempt is associated with "looking down on" them. Miller (1997) emphasizes the hierarchical cognitions involved in contempt: "What is common to all [contempt] experiences is one's relation to someone over whom one is claiming some superiority, the very assertion of the claim being identical with the manifestation of contempt" (214). Wagner (2000) defines contempt by noting that it "involves a *feeling of superiority* over another person (or of the other's inferiority)" (695). Keltner et al. (2006) describe the defining feature of contempt as "feelings of superiority and dominance vis-à-vis inferior others" (121). Izard (1977) speculates that the functions of contempt inhere in viewing potential enemies as inferior, thus abetting courage. Smith (2000) says of contempt (and scorn) that "these emotions follow a perception that another person is inferior to the self in some important way" (188). Hutcherson and Gross (2011) found that, of anger, disgust, and contempt, only contempt was associated with feelings of superiority.

3.5 Contempt creates "cold" indifference

There are two senses in which contempt is "cold," both of which can be described as "indifference," and both of which follow from conceptual metaphors in English. On the one

hand, contempt does not involve the "heat" of anger (Lakoff & Kövecses, 1987) because, at its base, contempt is a cold judgment, a coldly considered attitude, and, when possible, a contemnor disregards or ignores the object of contempt (Miller 1997). On the other hand, contempt diminishes the "warm" feelings associated with friendship and love (Kövecses, 2003); contempt undermines liking, emotional engagement, and compassion, thus potentiating "cold-blooded" treatment (Izard, 1977; Sternberg, 2003).

A number of authors note that contempt often lacks the phenomenology of "hot" emotions. Izard (1977) says that "[o]ne of the dangers of contempt is that it is a 'cold' emotion, one that tends to depersonalize the individual or group held in contempt. Hence it may help motivate 'cold-blooded killing'…" (90). Similarly, Sternberg (2003) argues that contempt underlies "cold hate" and can abet the perpetration of evil acts that disregard another's humanity. Rozin et al. (1999) suggest that contempt is "cooler than disgust, because it involves an element of indifference towards the object of contempt" (575). Haidt (2003) notes that "contempt is often said to be a 'cool' emotion, relative to the heat of anger or the visceral power of disgust" (858).

Haidt (2003) also touches on the other aspect of contempt's coldness, which is often implied, but rarely developed: contempt "weakens other moral emotions, such as compassion" (858), potentiating an absence of "warm" prosocial emotions. Here indifference refers to lack of concern at another's suffering. Mason (2003) notes that "the pervasive character of contempt…[makes] certain forms of concern and, with them, the possibility of forgiveness and reconciliation, more difficult to maintain" (249). Debreuil (2010) argues that contempt often blends with "cold indignation" and can facilitate mockery, exclusion, and ostracism by "inbihit[ing] empathy for the offender and thus [making] the punisher insensitive to the harm and distress that his punishment might provoke" (47).

The sole exception that I have found to the above patterns is Frijda et al.'s (1989) finding that retrospectively reported "contempt" events are associated with "boiling inwardly;" below I describe why contempt may sometimes involve this experience.

3.6 Contempt leads to intolerance, exclusion, and relationship dissolution

The motivations and action tendencies associated with contempt are diverse. In part this may be explicable with reference to contempt's overlap, both methodologically and empirically, with anger and disgust, which have divergent action tendencies (e.g., Frijda et al., 1989; Hutcherson & Gross, 2011; Mackie et al., 2000). However, diverse outcomes may also be intrinsic to contempt as a distinct social-relational phenomenon. Using discriminant analysis to predict emotion terms from appraisal and response profiles, Frijda and colleagues (1989) found that contempt was among the "appraisal dominant" emotions, meaning that it could be better predicted from antecedent appraisals than from consequent action readiness. It is, moreover, unclear whether some motives or behaviors follow specifically from specific features of contempt, or whether the whole hangs together as a syndrome. These possibilities should be kept in mind when considering the outcomes suggested for contempt.

The motivations and action tendencies associated with "contempt" have usually been characterized as exclusion and rejection (Dubreuil, 2010; Fessler & Haley, 2003; Fischer & Roseman, 2007; Frijda, 1986; Roseman et al., 1994). For Fischer and Roseman (2007, Study 1), the motivational goal of "social exclusion," including "I wanted to break the relationship," "I wanted to have nothing to do with this other person anymore," and "I did not want to be associated with this person" (Study 1 $\alpha = .92$), was associated with retrospectively reported "contempt" events but not with "anger" events. However, "coercion" goals were also associated

with “contempt” events, although less so than for “anger.” The short-term response of “derogation” (“walking away,” “ignoring the other,” “showing no respect,” and “showing disgust” [$\alpha = .63$]) was uniquely related to “contempt events,” and the long-term response of “rejection” (“ignoring” and “banning from one’s social network” [$r = .67$]) was associated with both “contempt” and “anger” events. “Verbal attack” was also associated with “contempt” events, although less so than for “anger” events.

Studying a composite of “contempt” and “disgust” (the four feeling probes measuring contempt were “contemptuous,” “disgusted,” “repelled,” and “sick;” $\alpha = .82$), Mackie et al. (2000, Study 3) found that contempt partially mediated reported willingness to move away from an out-group, while anger mediated willingness to move against. This divergence in outcomes was found despite similarity in the magnitude of anger and contempt in response to the same out-groups. Hutcherson and Gross (2011) suggest that contempt “may function to diminish interaction with individuals who cannot contribute in a meaningful way to the group” (721).

Dubreuil (2010) suggests that, along with disgust, and in association with indignation, contempt leads to mockery, exclusion, and ostracism, abetted by reduced empathy. As noted, Haidt (2003) argues that “contempt motivates neither attack nor withdrawal” (858), but instead pervades later interactions, diminishing prosocial emotions and leading to either mockery or disregard. Given that he does not mention ostracism, Haidt may have in mind more interdependent social contexts where outright ostracism is rare (e.g., Abu-Lughod, 1986; Turnbull, 1962), and where mockery and disregard are feasible options given continued proximity. Disregard or indifference is foregrounded by Miller (1997) as an important outcome of contempt.

Consonant with these motivational and behavioral outcomes, an important distal consequence associated with contempt is the dissolution of relationships. Fischer and Roseman (2007, Study 2) found that contempt predicted relationship deterioration, and partially mediated the effect of the motivation to exclude on relationship deterioration. Similarly, Fridhandler and Averill (1982), although not studying "contempt" per se, found that unresolved anger towards a formerly valued relationship partner, dispositional attributions of their shortcomings, and "a denigration of the target, a reduction of that person's stature, or a low estimate of his or her character" (274) were associated with having "less need or affection for the offender" and a "cooling of the relationship with the instigator" – all features that cohere in "contempt." Gottman and Levenson (1992, 2002) found that contempt, with disgust, is one of the "four horsemen of the apocalypse" in predicting divorce.

Finally, "contempt" has been implicated in some of the most heinous behaviors of which humans are capable. Sternberg (2003) suggests that contempt, as cognitive commitment to devaluing others, facilitates viewing the other as both worthless and evil, and plays a role in propaganda campaigns designed to foment hate; Sternberg implicates contempt in the calculated massacres of Hutus, Jews, and Armenians. Izard (1977) similarly suggests that the depersonalization and devaluation inherent in contempt help motivate genocide (90). While investigators have rarely distinguished the relative role of contempt in facilitating versus proximately causing such behavior, below I foreground facilitation through reduced compassion and a host of emergent information transmission biases.

3.7 Contempt is associated with "anger" and "disgust"

I describe contempt as *associated* with anger and disgust because this relationship is multi-faceted. While anger and disgust generally emerge as distinct in studies of their antecedents, concomitants, outcomes, and functions, contempt often overlaps with one or both of these terms in multiple ways. Moreover, both anger and disgust have been implicated in the causation of contempt, and I will argue that contempt can be implicated in the causation of both anger and disgust.

In studies with various probes (e.g., autobiographical stories of emotion events, emotion term ratings, and facial expression labeling), and diverse outcome measures (e.g., ratings of the valence and intensity of emotion terms, or coding of associated antecedents and action tendencies), "contempt" has strongly and primarily clustered with "anger," and secondarily with "disgust" (Alvarado & Jameson, 1996; Alvarado & Jameson, 2002; Frijda et al., 1989; Rozin et al., 1994; Rozin et al., 1999; Shaver et al., 1987; Smith & Ellsworth, 1985; but see Ekman et al., 1987, and Storm & Storm, 1987, who report the converse). Many stimuli or situations simultaneously evoke "contempt" with "anger" or "disgust" (Fischer & Roseman, 2007; Hutcherson & Gross, 2011; Laham et al., 2010; Mackie et al., 2000; Marzillier & Davey, 2004; Rozin et al., 1999; Tapias et al., 2007). Fischer and Roseman (2007) found that contempt was predicted by the frequency of past anger in a relationship (Study 2), while the display of disgust was among the behaviors associated with contempt (Study 1).

Hutcherson and Gross (2011) reviewed the extent to which contempt and disgust overlap in studies of antecedents, facial expressions, and action tendencies, and, across five studies, they themselves documented considerable overlap and co-occurrence (734). Contempt and disgust are considered together most commonly because both are associated with action tendencies to exclude or avoid another person (Debrueil, 2010; Mackie et al., 2000; Fiske et al., 2002).

However, others have considered anger, disgust, and contempt together because all three are "other condemning" and motivate hostility in one form or another (Haidt, 2003; Izard, 1977; Sternberg, 2003). Owing to these myriad associations, quite a few authors have argued that "contempt" either is itself a form of anger or disgust, or is built from them (e.g., Fiske et al., 2002; Lazarus, 1991; Ortony et al., 1988; Prinz, 2007)

3.8 Contempt has many expressions

In the many studies exploring the application of "contempt" to facial expressions, this term has consistently produced relatively low agreement across subjects and studies (Elfenbein & Ambady, 2002; Matsumoto & Ekman, 2004; Russell, 1991b,c; Wagner, 2000). The term has sometimes been applied to the canonical expressions for "anger" (Alvarado & Jameson, 1996; Rozin et al., 1994) and sometimes to that for "disgust" (Ekman et al., 1987). Tellingly, "contempt" is also chosen to label a neutral expression in the absence of a "neutral" label choice (Wagner, 2000). "Contempt" is the predominant label chosen for the unilateral lip curl (Ekman & Friesen, 1986; Matsumoto & Ekman, 2004), but "anger" and "disgust" are also often chosen (Haidt & Keltner, 1999; Matsumoto, 2005; Russell, 1991b,c). Moreover, in free response this expression is typically labeled "annoyance," "frustration," or "disappointment," but rarely "contempt" (Alvarado & Jameson, 1996; Ekman & Friesen, 1986; Haidt & Keltner, 1999; Matsumoto & Ekman, 2004; Russell, 1991c). Significantly, the unilateral lip curl is usually linked to the kinds of situations implicated in the elicitation of contempt (Matsumoto & Ekman, 2004; Rozin et al., 1999), but "contempt" is rarely used to label these situations in free-response tasks. This is not due to the inaccessibility or unfamiliarity of the term "contempt" (Wagner,

2000), but may be due to uncertainty regarding its meaning (Haidt & Keltner, 1999; Matsumoto 2005; Rosenberg & Ekman, 1995).

Beyond the paradigmatic facial expression literature, Izard and Haynes (1988) highlight a tradition of research linking "contempt" with a downward gaze and tilted-back head, postures used to show superiority that are associated with dominance displays in non-human animals (Darwin, 1872). Frijda (1986) also linked contempt with the action tendency "dominating" and with expressions that "exemplify size increases and actions from above" (89).

In addition to linking contempt (along with "scorn" and "disdain") to a non-human sneer or snarl reminiscent of the unilateral lip curl (see Izard & Haynes, 1988), Darwin (1872) foregrounded smiling and laughter as expressions of contempt that imply that "the offender is so insignificant that he excites only amusement" (254). Debreuil (2010) included ridicule and mockery as among the behaviors motivated or facilitated by contempt, pursued in part because they signal disapproval. Darwin (ibid.) suggested that turning away can signal contempt (see also Roseman et al., 1994).

Within the ethnographic literature, numerous behaviors and expressions are locally interpreted as signaling contempt. Among them are insincere laughter (e.g., Calame-Griaule, 1986), ignoring someone (e.g., Amadiume, 1987; Turnbull, 1962), throwing sand at someone (e.g., Thomas, 1914), spitting at or near them (e.g., Handy, 1972; Hollis, 1905; La Barre, 1948; Merker, 1910), swearing at them (e.g., Campbell, 1964), sticking one's tongue or lips out at them (e.g., Handy, ibid.; Merker, ibid.; Pierson, 1967), and displaying one's buttocks or other genitalia to them (e.g., Archer, 1984; Handy, ibid.). That contempt can be shown through active displays of irreverence resonates with the meaning of "contempt of court." While this practice is the subject of much controversy in the law literature (Dobbs, 1971; Dudley, 1993), at base it refers

to behavior that disregards or disrespects the rules, etiquette, or orders of a court of law (Goldfarb, 1961). In other words, in the American courtroom, contempt is inferred from irreverent behavior.

4. Stipulating the Form and Functions of *Contempt*

I follow Royzman et al. (2005; see also Fehr & Russell, 1984) in distinguishing the description of the culturally understood meaning of a term from the stipulation of a theoretically useful psychological construct labeled with the same term. I also highlight the synergy between these endeavors. By specifying the underlying joints and connections of a psychological system, and considering the social and historical contexts in which this system operates, one can potentially explain the unique constellation of meanings associated with a term. One can also thereby explain changes in meanings across time, and individual or cultural variation in similar concepts. I have argued that emotions and attitudes are distinct but functionally related affective phenomena that are variously emphasized or obscured in folk concepts of emotion. Having also reviewed the features associated with the term "contempt" in the psychological and ethnographic literature, I now turn to explaining these features with reference to emotions, attitudes, and their functional interaction.

4.1 The attitude of Contempt

"Contempt" is best understood as a schema centered on a particular attitude state – *contempt* – that also incorporates the causes, emotional outcomes, and behaviors most closely associated with that state. *Contempt* is constituted by a lack of felt *respect* and by the cognitive schema of "looking down on someone." These representations functionally proxy an other's low

intrinsic value to self as a result of the ease with which they can be replaced, their inefficacy in adhering to social-relational standards, or both. *Contempt* potentiates two clusters of emotional dispositions. Prosocial emotions are muted, leading to cold indifference and exploitation, and hostile emotions are potentiated, leading to intolerance and exclusion. Together these set the stage for relationship dissolution. *Contempt* can be inferred across contexts from multiple expressions and behaviors, especially as these diverge from normal or civil interaction – for instance, being unmoved by another's joy, reacting aggressively to a minor transgression, or laughing at another's misfortune. However, *contempt* is most often associated with the unilateral lip curl (Ekman & Heider, 1986), as this constitutes a mild threat display given the approach or proximity of someone not valued and hence potentially costly (Darwin, 1872; Izard & Haynes, 1988).

The proposal that *contempt* is an attitude that functions to represent low relational value explains all eight features of the "contempt" schema, as well as variation in the meaning of the term itself. "Contempt" is (1) object-focused and (2) enduring. These are basic features of attitudes as lasting representations of the value of particular objects. As an attitude state that specifically results from (3) cues of low relational value, the constitutive (4) loss of respect and status diminution make functional sense as representations or proxies (A. Fiske, 2002) of that low value. The elicitors of "contempt" reveal that an other is not or cannot be a useful member of the relevant alliance, community, or in-group, and is certainly not an expert worth imitating or a leader worth following. Thus respect, which indexes efficacy and expertise, is reduced -- *contempt* is the inverse of *respect*. The coinciding cognitions that the other is inferior or below oneself similarly represent the other's failure to meet minimal personal or role-defined standards, not to mention the other's failure to rise to any status worth emulating. These affective and

cognitive changes are facilitated by attributions that the other is unable to change, hence the salience of incompetence and badness of character as beliefs that support contempt – the other's failures stem not from the circumstances, but from the other's fundamental inadequacies.

Given that respect and "looking up to" someone motivate interest, concern, investment, imitation, and followership, it follows that (5) "cold" indifference results from the absence of respect and "looking down on" someone. The other is ignored if possible, and, as their welfare is not valuable, empathy and compassion are muted. There is no intrinsically valuable relationship for guilt to preserve as an anticipatory disincentive to exploit the other (Baumeister et al., 1994; Fessler & Haley, 2003), nor is there such a relationship for guilt to repair following a transgression; any benefit taken is a net benefit without a countervailing relational cost (see Tooby & Cosmides, 2008). *Contempt* removes emotions that implement subjective commitment (Fessler & Quintelier, in press; see Frank, 1988; Fessler & Haley, 2003; Fiske, 2002), thereby potentiating relationship dissolution. Moreover, since the other is not viewed as a valuable relationship partner, their approval is not important and their knowledge of one's own transgressions does not motivate shame. Lastly, their involvement in an unexpected mishap is unlikely to be perceived as serious for oneself – since no valuable relationship is thereby threatened – thus potentiating Duchenne laughter (Gervais & Wilson, 2005; see also McGraw & Warren, 2010).

A second cluster of emotional dispositions created by *contempt* coheres in the potentiation of hostile emotions, leading to (6) intolerance, exclusion, and relationship dissolution. To be sure, relationship dissolution may follow from the mere absence of valuation and commitment emotions, which lead to indifference and exploitation. However, beyond this, any actual or even potential cost imposed by the other – including proximity as a cue to cost

imposition – registers as a net cost (Tooby & Cosmides, 2008), potentiating anger and behaviors that will deter the other in the future (Sell et al., 2009), including the unilateral lip curl. Moreover, the other presents costs that can be mitigated through the potentiation of disgusted avoidance and ridicule, namely the threats of culture contamination – inadvertently copying the cultural practices that may have earned that person contempt in the first place – and image infection, or stigma-by-association (Neuberg et al., 1994). Thus, anger and disgust can be thought of as components in the syndrome of episodic dispositions (Royzman et al., 2005) created by *contempt*.

Contempt's potentiation of anger and disgust partly explains (7) the association of contempt with anger and disgust. This association also follows from the role of these emotions in establishing *contempt*. Anger gives rise to *contempt* when intrinsic attributions and the perception of an inability to readily control the other attend relational transgressions (Fischer & Roseman, 2007). Disgust and contempt co-occur when the same information that cues low value also cues a threat that can be addressed through avoidance – literal or figurative contamination or infection. Anger and disgust thus often play an important occurrent role in establishing the enduring attitude *contempt*, while subsequently being potentiated by that attitude in particular social-relational contexts.

Finally, that it moderates so many emotions and behaviors explains why (8) *contempt* can be expressed in so many ways – as a mild threat signaling "stay away" (e.g., Ekman & Friesen, 1986); as largeness or a downward glance signaling "I'm better than you," (Izard & Haynes,1988); as disappointment signaling "actually, you're not good enough for me," (Russell, 1991c); as anger (Alvarado & Jameson, 1996), disgust (Ekman et al., 1987), neutrality (Wagner, 2000), and laughter (Dubreuil, 2010; Miller, 1997), straightforward emotional responses that

index contempt in context; and also as ridicule and feigned laughter, disregard or disrespect, vulgarity, and lack of shameful modesty in the other's presence, as behaviors that index contempt by demonstrating that one is not concerned how the other thinks or feels.

4.2 Contempt *and* hate

Lending discriminant value to our approach to *contempt*, this syndrome of episodic dispositions differs in important ways from *hate*, a feeling often lumped with *contempt* (e.g., Cuddy et al., 2007). *Hate* has been described as "inverse caring," rooted in "envious admiration," leading to motives to harm an other and to delight in the other's misfortune (Royzman et al., 2005). *Contempt* represents an other as worthless to self, yet not as actively competitive, costly, or threatening. As a result, it potentiates instrumental exploitation and reactive aggressive towards a devalued other, but does not motivate continued pursuit of their harm or annihilation. *Contempt* thus does not potentiate a *schadenfreude*-like pleasure at another's misfortune, as their harm is not the proximate goal of *contempt* as it is for *hate*; instead, *contempt* potentiates indifference to misfortune, or laughter if that misfortune satisfies the incongruity condition of humor (Gervais & Wilson, 2005). Darker still, a wide variety of harmful acts can be motivated not by intrinsic motives to harm the other, but by instrumental considerations wherein the actor inflicts suffering as a means to other ends. This implicates *contempt* instead of *hate* in many so-called "hate crimes" (Royzman et al., 2005) and "cold-blooded killings," as *contempt* makes the contemned vulnerable to use by the contemnor in satisfying goals sourced from outside of their nominal relationship, including rape, theft, and actions taken to signal toughness, risk-proneness, or out-group derogation to members of the in-group.

Yet while *contempt* is different from *hate*, it is also a wedge for *hate*. *Contempt* facilitates propaganda that portrays others as evil and threatening, which then motivates their annihilation (Sternberg, 2003). This is not merely because *contempt* mutes the empathy and compassion that would forestall such treatment; *contempt* also generates credulity toward portrayals of the other as threatening. Judgments performed under uncertainty entail two possible mistakes: a false negative, wherein a state of the world that does hold is not recognized; and a false positive, wherein a state of the world that does not hold is taken to be true. Error Management Theory (Haselton & Buss, 2000) applies adaptationist logic to the systems that compute judgments under uncertainty, maintaining that these should be biased towards the judgment that, over evolutionary time, would have been the less costly error in the event of a mistake. If *contempt* represents another as valueless, it should bring online error management biases designed to minimize costs to self in the event of mistaken judgment regarding new information about the contemned. For instance, *contempt* should lead to credulity with respect to gossip that attributes overtly costly traits and dispositions to the contemned. The false negative here is potentially very costly – it amounts to ignoring potential threats to self. Conversely, the false positive has relatively low cost: a minimal response of rejection or avoidance is attended by zero opportunity costs, and the costs of active resistance or attack depend only on the means of attack and the relative formidability of the contemned (see Haselton & Nettle, 2006). In other words, *contempt* creates an attractor (Sperber, 1996) for vilifying gossip on top of any general bias for negative information. *Contempt* is thus implicated in the success of propaganda and systematic extermination during genocides and witch-hunts for two related reasons: *contempt* makes its object a dispensable scapegoat, and it also biases the contemnor to believe threatening things about the contemned over and above the original grounds for contempt.

I should note here a significant difference between our perspective and the influential thesis of Miller (1997). Using historical examples, Miller argues that contempt-as-indifference is a foundation for tolerance and democracy. Critically, Miller sees contempt as compatible with minimal respect, especially upwards contempt, which he suggests may be "a necessary starting point for a minimally basic respect for persons," (237). In stark contrast, I see *contempt* obtaining precisely when minimal respect is lost. Minimal respect does indeed facilitate democracy, and is fostered in cultures that foreground the gains in trade from differences and the potential interdependence of everyone (see, for example, Wright, 2009). But there is nothing contemptuous about accepting the validity of the vote of another member of society, as this implies that one accepts their efficacy and legitimacy as citizens, not that one sees them as inferior. What does show contempt is robbing some of the right to vote, a blatant denial of their equality and worth. Moreover, while "upwards" *contempt* may be a pathway to self-determination and the attainment of equal treatment, once equality is achieved, continued *contempt* undermines the functioning of the very system in which inclusion was sought. *Contempt* is corrosive to the democratic process.

5. *Contempt* in Evolution, Culture, and Psychopathology

5.1 Variation in the meaning of "contempt" across individuals, cultures, and history

I have argued that the meaning of "contempt" can be understood as a schema containing aspects of a network of functional systems that includes an attitude state as well as the conditions that established it and the emotions that it moderates. The specific content of these systems is critical, as it determines the embodied experiences that inform the schema (Niedenthal, 2008). These systems include a lack of respect, perceived superiority, anger, disgust, and a lack of

compassion, guilt, and shame. Hence, the meanings – or academic definitions – of "contempt" can vary from "cold indifference" (Haidt, 2003) to "boiling inside" (Frijda et al., 1989), from "looking down on someone" (Miller, 1997) to "the antithesis of respect" (Mason, 2003). This points to the potential for great fluidity in the meaning of "contempt" – or the conceptual representation of the attitude of *contempt* – at the within-individual, between-individual, between-culture, and socio-historical levels.

Within individuals, the details of the methods with which the "contempt" schema is probed should determine the kinds of events, relational cognitions, and emotions that are activated. For instance, asking participants about "a time you felt contempt" is likely to highlight the occurrent events and emotions that instilled *contempt* in the first place. These may be quite "hot," involving, for instance, anger at another's remorseless imposition of unwelcome costs, and one's short-term behavioral reactions (e.g., Fischer & Roseman, 2007). Under this condition "contempt" will appear to be an emotion. However, ask participants about "a person for whom you have contempt," and this is likely to bring to mind properties of the relationship, the other's perceived inferiorities, and one's own lack of emotional engagement with them. Yet there is a caveat: if the contemned other continues to be a part of the participant's life, that proximity may foreground the emotional systems, anger and disgust, that are active to keep the other from imposing unwelcome costs. I especially expect disgust to be prominent if context facilitates the inference among bystanders (or researchers) that the relationship is still ongoing.

Between individuals, our informal surveys, including among a group of Japanese behavioral scientists, suggest that most people understand contempt as *either* cold indifference or strong aversion. An interesting possibility is that one's own self-esteem, social status, skill set, resources, and day-to-day experiences will influence the flavor of contempt as it is usually

experienced. We might expect "cold indifference" to be salient among individuals who consider themselves superior to most, are in demand as relationship partners, and have an excess of resources and social capital such that small costs from others are marginally insignificant. In contrast, those who have suffered sizeable marginal costs in many relationships, find themselves at the whim of dysfunctional yet recalcitrant hierarchies, or consider themselves surrounded by fools and free-riders from whom they wish to dissociate would experience "contempt" as anger- and/or disgust-laden. Hence, there may be a correlation between the coldness of "contempt" and its direction in a hierarchy – in the thermodynamics of contempt, cold contempt sinks, and hot contempt rises (cf. Miller, 1997).

Across cultures, I expect the phenomenology of "contempt" to vary as a function of the breadth of targets that are legitimate objects of contempt. "Contempt" will take on cold tones of disappointment and indifference in contexts where failings or essential differences are common grounds for devaluation. This includes relatively stratified settings and cultures of honor, in which respect has to be earned and its absence is a normal part of social life; *contempt* plays a socially sanctioned role in an economy of honor and respect, and is occasioned by various failings relative to role expectations and by deviations from in-group norms (e.g., Abu-Lughod, 1986). In contrast, "contempt" should be hot in contexts where human dignity is inviolable and respect is widely prescribed, thereby restricting *contempt's* proper focus (Mason, 2003). Under such conditions *contempt* will be often confounded with anger and outrage, as only egregious violators of other's rights and fairness are legitimate objects of *contempt*. I suspect that this in large part explains the meaning of "contempt" in contemporary American English (especially among liberal college student participants) – where "all men are created equal," where differences are not grounds for disrespect, and where universal human rights and dignity are

vehemently fought for, only the most consensually heinous or antisocial people are contemptible. Both across cultures and across history, the transition from a stratified social structure to a democratic one can thus be expected to be accompanied by a shift in the cultural model of "contempt" away from the cold, matter-of-fact attitudinal core and towards hot emotional reactions to the trampling of rights and dignity.

5.2 Contempt *and* respect *in human evolution and phylogeny*

I have argued that *respect* functions to track another's efficacy, from sufficiency to expertise, in cultural domains relevant to the judge, and to regulate motives and emotions in the service of tolerance, interest, concern, deference, and imitation. At its minimum, respect is a strategy of affect (Fessler & Haley, 2003) that can facilitate the establishment of mutualisms through tolerance, interest, and the appreciation of another's value (cf. Tooby & Cosmides, 1996); at its maximum, *respect* can motivate deference, sycophancy, imitation, and followership so as to maximize the gains obtained from the highly successful (Henrich & Gil-White, 2001). On this account, *respect* is implicated in many of the social behaviors that set humans apart in the animal kingdom. These include 1) reciprocal relationships (Trivers, 1971), 2) cultural learning (Henrich & Gil-White, 2001), and 3) followership in the resolution of coordination problems for individual and group benefit (King et al., 2009; Van Vugt, 2006). In each case, *respect* can play a role in partner choice by indexing which individuals are competent norm followers, potential sources of cultural skills, and wise and able leaders – at least according to the goals and values adhered to by the attitude holder. *Respect* is thus one proximate mechanism that may implement some of the strategies modeled as explanations for the evolution of cooperation, including partner selection (e.g., Hruschka & Henrich, 2006) and indirect reciprocity

(Panchanathan & Boyd, 2004). Note that *respect* as conceptualized here it is a summary of evaluations of efficacy across many domains -- that people purchase wristwatches endorsed by athletes, or attend to the geopolitical opinions of movie stars, suggests that such a summary evaluation of efficacy is operative in the human mind (Henrich & Gil-White, ibid.).

The ultimate function of *contempt* follows from this rendering of *respect*. As the absence of *respect, contempt* marks an other as falling short of minimum standards of social-relational efficacy set by the goals and abilities of the contemnor, which may map in part or in full onto normative standards shared in a community. This attitude state then implements indifference, intolerance, and exploitation by muting the motives supported by *respect*. Seen as an evaluation of the utility that others hold for the self, *contempt* is a selfish attitude. However, over evolutionary time, *contempt* can produce positive social outcomes, as its consequences generate strong selection pressure on those who are not competent, do not adhere to norms, and are too selfish. Such social selection (Nesse, 2007; 2009) can have a profound influence on the traits or strategies that predominate in a population. *Contempt* potentiates intolerance and exclusion. As a foundation for such low-cost (Dubreuil, 2010) and indirect (Panchanathan & Boyd, 2004) punishment, *contempt* is implicated in selecting for the evolution of strategies for its avoidance – most significantly, adherence to norms for the sake of predictability in joint enterprise (Fessler, 2007), but also social niche differentiation to make oneself uniquely valuable and indispensible (Sugiyama & Sugiyama, 2003; Tooby & Cosmides, 1996).

Implicating *contempt* in social selection assumes that cooperative strategies and attendant norms are already off the ground, such that discriminant mutualisms exist and there are cultural standards relative to which one can fail. However, evolutionarily, the hard part seems to be getting *respect* going, a feat apparently accomplished in few species. This holds substantial

significance for a phylogenetic analysis of *contempt*. As the contingent withdrawal of the psychological systems that support many uniquely human behaviors, *contempt* approximates what is likely the predominant social attitude in the animal kingdom. It is only in the context of the human cooperative syndrome, and especially the context of generalized normative expectations of respect and human dignity, that *contempt* is marked as negative and morally relevant. *Contempt* may indeed be a uniquely human moral attitude, but only because humans are unique in their moral expectations.

The cognitive side of *contempt* – viewing the other as inferior, the self as superior – has a clear precedent in nonhuman animal -- especially primate -- dominance hierarchies (Darwin, 1872; Frijda, 1986; Izard & Haynes, 1988; Keltner et al., 2008). Dominant individuals in many species act contemptuous – exploitative, intolerant, quick to take resources, and often indifferent to those on lower rungs who are impotent to depose the despot (Boehm, 1999). However, whereas social hierarchies among nonhuman animals are generally based on dominance (force or the threat thereof), human hierarchies are often also based on prestige, wherein positions are freely granted on the basis of skill and cultural knowledge (Barkow, 1989; Henrich & Gil-White, 2001). It may be that the kind of inferiority conceptualized in most (human) contempt is distinct from force-based inferiority, being based instead on assessments of competence or morality. However, just as the emotional systems *pride* and *shame* were coopted from use in dominance hierarchies for use in prestige hierarchies (Fessler, 1999; 2004), the cognitive model of hierarchy likely was as well (Fiske, 1991). I suspect that the outcome is a kludgey solution to relational tracking that evinces phylogenetic legacies in its proximate instantiation (Fessler & Gervais, 2009). We should thus expect bleeding across the cognitive bases for different antecedents of

contempt – "weakness" being a primary idiom for discussing moral failings, and "strength of mind" legitimating the highest scholarly respect.

5.3 Contempt *and psychopathy*

Our approach has the potential to inform the study of psychopathy, frontotemporal dementia, and other emotion disorders. Clinical psychopaths are characterized by a constellation of anti-social traits and behaviors, including "cold" affect, arrogance, interpersonal manipulation, impulsivity, and irresponsibility (Blair et al., 2005; Cleckley, 1988/1941; Hare, 1996). Psychopaths demonstrate both reactive (anger-based) aggression and instrumental aggression (injury as a means to another end) (Cornell et al., 1996; Blair et al., 2005; though see Reidy et al., 2011). Hypotheses about the etiology of psychopathic immorality tend to foreground impaired aversive reinforcement and insensitivity to socialization (e.g., Blair, 2007). Blair's (1995) proposed deficit in a violence inhibition mechanism, which normally operates through negative reinforcement from distress cues, epitomizes this well.

It is likely that the psychopathic behavioral profile can be partly accounted for in terms of an inability to learn from negative reinforcement, which makes psychopaths insensitive to punishment and harm done, and liberates a host of anti-social yet instrumental behaviors. However, except under extreme assumptions of socialization, this does not explain why psychopaths are so interpersonally cold, appearing unmotivated by love, deference, or compassion, nor why they are arrogant and externalizing. Our perspective on *contempt* suggests a clarifying explanation of these features. A second central aspect of psychopathy may be an inability to represent others as having any intrinsic value. Psychopaths appear *contemptuous* in all of their interactions: their arrogance, their lack of guilt, empathy, or social sadness, their

instrumental aggression, their reactive aggression, even their propensity to blame others for negative outcomes – all are arguably adaptive responses vis-à-vis someone held in *contempt*. An integral part of the pathology in psychopathy may simply be an inability to hold any social attitude other than *contempt*; much of the rest should come for free, as a functional consequence of the attitude. This has important developmental implications: rather than an empathy deficit stymying the development of attachment in psychopathy (e.g., Blair et al, 1997), an inability to attach to and otherwise value others may underlay their diminished empathy and downstream resistance to socialization. More generally, psychopathy may be explicable as a double-hit *attitude* disorder, in which individuals can represent neither the positive value of social relationships (no *love* or *respect*, hence no prosocial emotions or regard), nor the negative value of authoritative punishment (no *fear*, hence no anticipatory anxiety). These two deficits plausibly underlay the two classic psychopathy factors: callous interpersonal affect (Factor 1), and social deviance (Factor 2), respectively.

Considering *contempt* also highlights an intriguing difference between clinical psychopaths and those with acquired sociopathy, including frontotemporal dementia (FTD) patients. In some ways, FTD is much like psychopathy. FTD patients present with symptoms such as "interpersonal coldness and decreased compassion for others," (Mendez et al., 2006, 245), disregard for social responsibilities, stealing, and impulsiveness (Kertesz et al., 1997; Mendez et al., 2008; Neary et al., 1998; see also Mates et al., 2009). Yet while psychopaths often present as arrogant, narcissistic, and externalizing, FTD patients present an astonishing lack of self-awareness, and seem to have ceased social comparison altogether; unlike psychopaths, they do not present with grandiosity (Mitchell et al., 2006; Mendez, 2006). Also unlike psychopaths, FTD patients do not present with manipulativeness or with instrumental aggression beyond

impulsive theft (Mendez, ibid.; Neary et al., ibid.). Finally, FTD patients appear to maintain a degree of docility and obedience to direct commands (Mates et al., ibid.) unlike anything seen in psychopathy. Thus, FTD patients appear to lose love for others while not thinking of them as inferior; aggress against them reactively but not instrumentally; and follow commands albeit not social norms. Compared to FTD, the comorbidity in psychopathy of grandiosity, instrumental aggression, and irreverence suggests a unique functional role for inferiority cognitions in the function of *contempt*, highlighting the pathway leading from downward social comparison to exploitation – or from *respect* to the mitigation of instrumental aggression. It also reveals a potential neural dissociation among positive attitude dimensions, with FTD patients selectively lacking *love* while psychopaths are capable of neither *love* nor *respect*.

6. Summary and Discussion

I set out to explain extant findings on contempt. To do so, I decomposed the cultural model "contempt" into two distinct kinds of psychological systems that contribute to the form and content of that model: *emotions*, fleeting embodied responses to events that adaptively coordinate behavior; and *attitudes*, enduring representations of the fitness affordances of the objects and people involved in events. I also foregrounded the reciprocal functional connections between these systems: emotions recalibrate or update attitudinal representations, while attitudes moderate emotions by influencing multiple aspects of appraisal processes. To advance an adaptationist approach to attitudes, I proposed a number of distinct social attitude dimensions corresponding to distinct affordances of social relationships; one of these is *respect*, which tracks an other's cultural efficacy, and motivates tolerance, concern, interest, and deference.

Reviewing eight features of "contempt" in light of this framework, I argued that this cultural model does not correspond to a unique basic emotion. Instead, it has at its core an attitude of no respect, while also incorporating the emotional antecedents and outcomes of this attitude: anger, disgust, and muted prosocial emotions. This reconceptualization explains the complex relations of contempt to these emotions, the many expressions associated with the term, and its most peculiar features: a quasi-permanent duration and "cold" phenomenology. It also explains the manifest variation of the meaning of "contempt" by referencing individual and cultural differences in the aspects of this functional network that are salient in experience: an attitudinal representation of an other's inferiority, the "cold" absence of compassion and guilt, or the "hot" intolerance of other-condemning emotions.

Rendering the ultimate function of *contempt* as regulating relationships with those not worthy of investment or deference, I aimed to advance discussion of the proximate mechanisms underlying various forms of human sociality, including tolerance, cooperation, and prestige hierarchies. This analysis further suggests that the natural history of *contempt* does not concern a uniquely human moral emotion. Instead, *contempt* takes on uniquely human moral relevance vis-à-vis *respect*, which finds prominence in humans in the service of tolerance, relational assortment, and social learning. In phylogenetic perspective, *contempt* is likely an ancestral trait rather than a derived human adaptation.

This approach to emotions and attitudes, developed through considering the case of "contempt," both provides a methodological caution and highlights several novel research directions. First, when probing emotion schemas, researchers should be mindful of the possibility that these may differentially incorporate attitude representations. Some schemas may be primarily attitudinal, such as "liking." Others may be both attitudinal and emotional, such as

"love" (Shaver et al., 1996; Storm & Storm, 2005) and "hate" (Royzman et al., 2005). Yet others may map more onto an emotion, such as "anger." The close interdependence of emotions and attitudes suggests that they will often be seamless in experience, and that some terms will be malleable in how they incorporate different aspects of this interaction; I have argued that such malleability characterizes "contempt." Moreover, differences in the salience of discrete emotions versus relational attitudes may explain some examples of individual and cultural variation in the content of emotion lexicons (see, e.g., Lutz, 1988; White & Kirkpatrick, 1985). A productive line of research might explore the malleability of emotion schemas, and whether apparent individual or cultural differences in affect categories can be erased or reversed through the foregrounding of different aspects of relational experience as grounded in emotions or attitudes.

Second, I have argued that social attitudes have the ultimate function of tracking relational affordances of others for self. Since one's own status, resources, social options, and need for social support influence the fitness affordances of others, attitudes should be sensitive to such individual differences, at both the within-group and between-group levels. Resulting attitude tendencies may then produce individual and cultural differences in emotion dispositions (or trait emotions). For example, I interpret a "contemptuous" character as someone who tends to have little *respect* for others, or who is prone to view others with *contempt*. This attitude baseline should influence emotions across relationships, including a proneness to anger and disgust, and a lack of compassion, guilt, and shame. Clinical psychopathy may be an extreme example of this. But contemptuousness may also be an attitudinal strategy that is an adaptive response to high levels of power or resource control by oneself, or to relational independence from those outside of a strong social support network. The influence of physical formidability on anger reactivity (Sell et al., 2009) is consistent with this supposition, as are recent experiments relating increased

power (Lammers & Stapel, 2011; van Kleef et al., 2008) and increased social connections (Waytz & Epley, 2011) to contempt-consistent effects of decreased compassion and dehumanization of distant others. I likewise interpret the coincidence of in-group love and out-group indifference (Brewer, 1999) as outgroup *contempt* abetted by in-group solidarity.

Cultural differences in attitude baselines and emotion dispositions may also result from between-group differences in variables affecting relational affordances. These may include the structure, size, and fluidity of social networks (e.g., Oishi 2010; Yamagishi & Yamagishi, 1994), resource patterning and risk (e.g., Kameda et al., 2002), and levels of within- and between-group violence (e.g., Bergeron & Schneider, 2005; Keeley, 1996; Muller & Weede, 1990). These may also include variable cultural practices that stoke different attitudes by cuing different relational affordances (Fiske, 2004), such as synchronized movement, asymmetrical spatial arrangements, and turn taking. While I am not advocating a return to the culture-and-personality approach to cultural differences, I would implicate culturally variable attitude profiles as a source of genuine cultural differences in emotional proclivities and social behavior.

In characterizing attitudes, I have focused on *respect* and *contempt* as the anchors of one among many attitude dimensions that represent the fitness affordances of others. I merely sketched the larger set of dimensions, and hypothesized general functional links among cued affordances, attitudinal representations, and emotional dispositions. In doing so, I sought a middle ground between parsimony and the tenet of functional specialization. On the one hand, I split *liking* and *love*, although these could be conceived as graded values on an affiliation or attachment dimension. I also included *fear*, which seems to function primarily as a latent-emotion-type attitude. On the other hand, I excluded *disgust*, which resembles *fear* in that both emotions condition on objects and can function as enduring emotion dispositions. At this stage,

such analytical decisions may be less important than the empirical questions that arise from the emotion/attitude distinction – especially questions of relationship regulation and attitude/emotion interaction. For instance, what is the precise emotional grammar for different values of each putative attitude across events? Distinct attitudes should produce divergent emotional outcomes under at least some circumstances – such as malice and *schadenfreude* following from *hate* but not *contempt*, or approach-induced anxiety that scales with *respect* but not *love*. Secondly, how do different attitude dimensions interact within relationships? I associated *contempt* with indifference to another's suffering, but what happens when *contempt* coincides with *love*, for instance among biological relations with divergent politics? "Pity" may refer to an emotional state that follows from the joint outcome of these attitude values given an other's suffering (cf. Cuddy et al., 2007). Indeed, some intersections of attitude dimensions may be common, while others are unlikely or even incommensurate, owing to the clustering of relational affordances in the world. "Reverence" may incorporate positive regard in all its forms, including *respect*, *love*, and *liking*, while "contempt" as commonly understood may imply an absence of all these attitudes. If more than hyperbole, a "love/hate relationship" provides an interesting case of ambivalence given the coexistence of distinct affordances – dependence and exploitation. Such a case illustrates the upper boundary of information summarization in the social mind.

I have located *contempt* within a network of systems of endogenous affect that regulate social-relational behavior. This is not to say that the patterning of these systems within any given relationship is the only determinant of behavior within that relationship. Strong norms backed by punishment, or obligations and expectations linked to reputation, can channel and constrain social behavior, motivating generosity, or disincentivising exploitation, even in the absence of compassion or respect; as noted, psychopaths stand out for lacking both intrinsic sentiments and

sensitivity to punishment. Moreover, the existence of norms such as "hate the sin, not the sinner" suggests that communities often need norms to countervail the endogenous tendencies of social attitudes (Wilson, 2002). Yet the psychological interaction of these influences on social behavior remains under-researched. What work there is suggests significant cultural variation in the relative weight of relational attitudes and internalized role expectations in determining social behavior. For instance, among Indian participants, an internalized sense of duty can abet prosociality even within particular relations that are devoid of warmth, thus establishing two pathways to "intrinsically" motivated prosocial behavior (Miller & Bersoff, 1998; Miller et al., 2011).

That said, the relationship between relational attitudes and internalized norms is likely more complex than such cases suggest -- internalization itself may be mediated by attitudes towards community members generally, or authority figures in particular, creating a link between attitudes and norms. Construed as a psychological commitment device evolved to enhance norm conformity and the social benefits thereof (Fessler, 2007), the internalization of norms should hinge on the perceived fitness affordances of the holders of normative expectations. This is because the fitness benefits of internalization apply only vis-à-vis those whose judgments are valuable as means to social, cultural, and material resources. In other words, the costs of *not* internalizing norms follow from the negative judgments of valuable allies or authorities. This implies that, over and above cultural variation in normative expectations, individual and cultural differences in the internalization of norms may reflect variation in *respect* for authority, or *love* for other group members, producing differences in the commitment emotions (like shame) that these attitudes regulate. This, in turn, predicts variation in the success of the social control of attitudes, such as *contempt* or *hate*, that can motivate counternormative behavior within

particular relationships. Similarly, dramatic changes in an individual's circumstances vis-à-vis a group, with corresponding changes in the relational value of group members, may alter the degree to which norms are internalized as a function of changes in attitudes: a sudden rise in an actor's coercive power may lead to a decline in their *respect* for authority and the motivational import of previously motivating norms, while defeat and assimilation by an alien group may lead to the abandonment of prior norms in favor of those of the newly indispensible, and loved, group (cf. Henson, 2002).

7. Conclusion

Employing an adaptationist approach to the mind while taking transmitted culture seriously, the present approach to "contempt" explains the diverse and sometimes contradictory results in the burgeoning contempt literature, and suggests a number of methodological and empirical insights. More broadly, characterizing emotions and attitudes in complementary functional terms should facilitate engagement between emotion researchers and attitude researchers, each of whom typically study their parochial affective phenomena in isolation. Finally, by jointly considering the factors that influence the content of emotion lexicons and genuine cultural differences in attitudes, emotional reactivity, and social behavior, this approach advances the interdisciplinary cross-fertilization of psychological anthropology, cultural psychology, and evolutionary psychology – a necessary consilience if we are to understand humans as a biologically cultural species.

CHAPTER 2

The Functional Structure of Social Affect in Yasawa, Fiji

1. Introduction

Chapter 1 used a case study of 'contempt' to develop a set of hypotheses concerning the form and functions of *emotions* and *attitudes*. It thereby bridged two foundational fields of psychological inquiry that have traditionally been studied in isolation. I defended a social-functional approach to reliably-developing modal emotions (Scherer, 2009), characterizing them as behavioral regulation systems that implement adaptive organismic responses given particular situational appraisals (Cosmides & Tooby 2000). I characterized attitudes as enduring representations of the fitness affordances of others, and suggested there are a number of orthogonal attitude dimensions that track different types of relational value (Cacioppo etal. 1999; Tooby & Cosmides 2008). The most significant substantive claim in relating emotions and attitudes was that a given attitude can moderate multiple emotion systems across relational contexts. Attitudes inform the fitness relevance of social-relational events and can be thought of as "syndromes of episodic dispositions" (Royzman et al. 2005) that systematically pattern emotions within relationships (Shand 1920; Heider 1958). I refer to this as the Attitude-Scenario-Emotion (ASE) framework, in which attitudes moderate emotions across scenarios.

The ASE framework has important implications for understanding the structure of affect schemas and their variation across cultures. Concepts such as "emotion" and "love" may be culturally-constructed categories (Lutz 1988; Russell 1991), but their content is constrained by

embodied experiences (Lyon, 1996; Niedental 2008; Russell 1991; White 2000). Such experiences, in turn, are grounded in causal and temporal contingencies in social and ecological contexts (Lutz & White 1986; Kitayama & Markus 1994) as these interact with functionally-organized behavior regulation systems (Levy 1984; Tooby & Cosmides 2008; Scherer 2009). The ASE framework proposes that an important part of such behavior regulation systems are attitudes and the constellations of emotions with which they articulate. An upshot of this analysis is that an affect concept can incorporate any portion of the causal-functional network linking emotions and attitudes, from pure emotion concept to pure attitude concept to the intersections among them. The contents of affect concepts should be able to drift (or be driven) across the network of underlying systems (Haslam & Bornstein 1996) by cultural interpretive resources, variation in the patterning of events, contexts, or relationships, and normative expectations and consequences. For example, understandings of "love" may emphasize a range of emotions, including romantic attraction, appreciation, contentment, compassion, anger, sadness, guilt, and longing, as well as relational commitments and obligations, all of which are causally linked to an attitude state that indexes relational dependence (cf. Royzman et al. 2005; Shaver et al. 1996; Storm & Storm 2005). Moreover, these different aspects of the syndrome of love may be more or less salient depending on the implications of love fostered by local social or ecological contexts -- in an environment of vulnerability, love may imply compassion and loss more than romance and contentment (see Lutz 1988). Communal or interdependent cultural contexts may generally emphasize relationships and their regulation at the expense of individual phenomenology (Markus & Kitayama 1991; White & Kirkpatrick 1985), potentially encouraging a conceptual emphasis on attitudes and their relational consequences at the expense of the subjective

experience of emotions – for instance, love as relational obligations, not momentary bliss or longing.

With the right perspective and the right probes, it should be possible to see how emotions and attitudes articulate in the concepts and schemas a culture uses to think about and talk about affect. In the present chapter, I endeavor an initial exploration of a Yasawa, Fiji affect lexicon with the goal of evaluating some of the implications of ASE framework. Specifically, the present chapter has four goals:

1) Elicit the full range of concepts that Yasawan villagers use to think about and talk about social feelings (Study 1).
2) Characterize the structure and interrelations of those concepts as this illuminates the patterning of attitudes and emotions in embodied experience and the functions that attitudes and emotions play in behavior regulation (Study 2).
3) Evaluate the hypothesis that interpersonal attitudes function to moderate social emotions across social events (Study 3).
4) Lay the foundation for investigating the role of attitudes in regulating actual social relationships in a Yasawan village, an endeavor I take up in Chapter 3.

2.1. Study 1

2.1.1. Affect Lexicon Elicitation Tasks

Study 1 involved eliciting the terms, phrases, idioms, and underlying concepts that Yasawans use to think about and talk about social affect. This phase of lexicon elicitation was motivated by several considerations. Relying solely on dictionary translations of the relevant affective vocabulary runs the risk of ignoring anachronisms in term meaning, as the most widely

used Fijian-English dictionary is from 1941 (Capel 1991) and has a number of shortcomings (Geraghty 1983). It also runs the risk of ignoring local variation in language use in a society as linguistically diverse as Fiji. In particular, the Yasawan dialect is as distinct from Standard Fijian (the language taught in schools and presented in Fijian dictionaries) as English is from German (Pawley & Sayaba, in press). In everyday practice, however, the Yasawa Island language landscape is quite heterogeneous. "Yasawan" itself is not a homogeneous language; there are slightly varying communalects among villages on Yasawa Island, and increasingly divergent communalects as one travels away from Yasawa Island down the Yasawa island chain (Triffit 2000). Yasawa, like Fiji generally, is prescriptively patrilocal, yet perhaps 10% ambilocal (Sahlins 1962), and exogamy sends many people to Yasawa Island from other islands in the Yasawas. An increasing proportion of Yasawa residents come from beyond the Yasawa region as well, as marriage prescriptions relax, and individuals attending schooling or seeking wage labor on Viti Levu return to villages with spouses from as far away as Lau (Eastern Fiji). To facilitate economic opportunities, some Yasawan primary schools actually forbid the use of village communalects in class. For these reasons, Standard Fijian is effectively a *lingua franca* on Yasawa Island, as it is across Fiji (Pawley & Sayaba 1971), and it is common in daily conversations at all social scales, from family meals to village meetings. Only the oldest (over 80) and youngest (under 5) Yasawan villagers speak primarily in their village communalect.

Language diversity within Yasawan villages had an important methodological consequence for the current study. Because I was interested in sampling from all cognitively able villagers, and eventually running comparative studies in other villages and regions in Fiji, I opted to conduct all interviews in Standard Fijian. While this may have biased interviews against

eliciting Yasawan terms, informal follow-up questioning suggested that the elicitation interviews missed none.

Four interviews contributed to Study 1:

1) *Interpersonal Affect Free List* (N = 10): To generate a list of the most salient local interpersonal affect terms, I asked participants, "What are all the ways in which a Fijian might feel towards another person?" (*Na cava kece na sala e dau lomamuni nai taukei vei so tale na tamata?*).
2) *Attitude Targets* (N = 8): To generate terms used in evaluating relationships, I asked participants, "How do Fijians tend to feel about [person]?" (*E dau vakacava nai vakarau ni lomamuni nai Taukei me baleti ira na [person]?*), where [person] was 24 local statuses, roles, relations, or character traits selected to cover a range of social-relational costs and benefits (see Table 2.01 for a list of the attitude targets).
3) *Emotion Scenarios 1* (N = 8): To generate terms used to describe emotional responses to events, I asked participants, "How would you feel if [event]?" (*E na vakacava beka na vakarau ni lomamu, kevaka [event]?*), where [event] was 41 locally-relevant events selected to elicit a range of hypothesized emotions (see Table 2.02 for a list of the scenarios used).
4) *Emotion Scenarios 2* (N = 10): To elicit hypothesized emotions and distinctions among emotions not revealed in Emotions Scenarios 1, a separate set of participants was asked, "How would you feel if [event]?" (*E na vakacava beka na vakarau ni lomamu, kevaka [event]?*), where [event] was 32 additional locally-relevant events (see Table 2.03 for a list of the scenarios used).

I expected that together these interviews would elicit the full range of concepts used to categorize social affects in Yasawa, while giving some insight into the meanings of such terms through the kinds of people and events to which they are applied. I was especially interested in comparing whether different terms would be used to talk about evaluations of people as to talk about reactions to events. I also aimed to elicit Yasawan terms that are unique to the local dialect and are not listed in several published dictionaries of Standard Fijian (Gatty 2009; Capel 1991). Finally, I aimed to evaluate the utility of a "free list" methodology relative to more contextualized and theory-driven elicitation interviews for the project of cultural domain analysis (Bernard 2006).

In each of these interviews, I used several constructions involving the term *loma-* to translate "feeling" in a way intended to capture both attitudes and emotions. Generally, *loma-na* can be translated as "inside" or "middle", and is used in a range of contexts to refer to the inside of a place (e.g., *loma ni vale*, "in the house") or the middle of an expanse or range (e.g., *loma ni bogi*, "middle of the night"). In Fijian ethnopsychology, *loma-na* refers to a person's insides, and specifically the wellspring of their thoughts, desires, and decisions. One recent dictionary translates *loma-na* as "spirit, will, attitude, mind" (Gatty 2009). The concept is textured very much like the Samoan concept of *loto*, which means "depth" (Gerber 1985), and the Tongan cognate *loto*, which means "inside" (Morton 1996), both of which can refer to aspects of mind and feeling, and can be modified to refer to episodic states or enduring dispositions. The possessive *lomamu* means "your insides", while *lomamuni* means "their insides". One can refer to the state of someone's insides by referring to *vakarau ni lomamuni* ("the way of their insides), or metaphorically the "path" of their insides (*na sala e dau lomamuni*). *Loma-* can also be combined with diverse descriptors to characterize someone's behavioral and emotional

dispositions, *itovo, ivalavala,* or *ivakarau*; each refers to both short-term behavior and enduring temperament, as the former is a clue to the latter, and characterizing one's "insides" can be used to explain both. For example, *soli* means "give", *lomasoli* "generous" (see Chapter 3), while *katakata* means "hot", and *lomakatakata* "hot tempered" (or quick to anger). A similar concept to *loma* is *yalo*, translated as "spirit, mind, emotion or temperament, soul, ghost" (Gatty 2009); in Ch.3, I use *yalokatakata* to measure "hotheadedness".

A difference between Interview 1 and Interview 2 is that in the Freelist I asked how a Fijian might feel *towards* another person (…*vei so tale na tamata*), and in the Attitude Targets interview I asked how a Fijian tends to feel *about* a specific kind of person (*…me baleti ira na…*). The former could apply to emotions or attitudes, while the latter implies an enduring evaluation. Both the Attitude Targets interview and the Emotion Scenarios interviews asked about the "way of [their/your] insides", the former with reference to specific people, the latter specific events.

2.1.2. Methods

Four lexicon elicitation interviews were conducted along with other interviews during the first ten months of my fieldwork (June-July 2009, June-August 2010, and January-June 2011). All were conducted by a trained research assistant fluent in English and Standard Fijian, and were conducted in Standard Fijian. I was present during almost all of the interviews. We conducted all four interviews with participants from two villages on Yasawa Island that together have a population of around 200. These two villages share a *yavusa* (a formally recognized land-holding "tribe" with one Chief) and are a 15-minute walk from one another. I selected participants from a randomized list of all adult villagers present in the villages at the time of the

interviews, with an effort made to balance male and female participation and to select a different sample for each interview. Participants were recruited with a short description of the study, an estimate of its time to completion, and an offer to conduct the interview later if the current moment was impractical. We made clear that non-participation, or ending the interview early, would not be a problem. We offered no compensation for these interviews. All interviews were conducted face-to-face in private, usually sitting on the floor of the participant's own home.

Interpersonal Affect Free List

Villagers (N = 10, *M* age = 44 ± 13y) were invited to participate in a 15-minute interview in which we would ask them "about the various ways in which a Fijian might feel towards other people" (*me baleta nai vakarau ni yalodra nai Taukei vei ira na veitamata tale eso*). We made clear that their answers would not have to reflect how they personally felt or acted towards specific others. We first asked participants, "What are all the ways in which a Fijian might feel towards another person?" (*Na cava kece na sala e dau lomamuni nai taukei vei so tale na tamata?*). Once they finished their listing, we asked, "Are there any additional ways of feeling towards someone?" (*E tu tale eso na sala ni lomamuni vei dua tale?*), until they replied "no".

Attitude Targets Interview

Villagers (N = 8, *M* age = 36 ± 10.5y) were invited to participate in a 15-minute interview in which we would ask them "how Fijians tend to look at various people" (*me baleta na nomuni rai nai Taukei me baleta na veimataqali Tamata yadudua*). We again made clear that their answers would not have to reflect how they personally felt or acted towards others, but instead how Fijians tend to view certain kinds of people. We asked participants a series of 24 questions with the frame, "How do Fijians tend to feel towards [person]?" (*E dau vakacava nai vakarau ni lomamuni nai Taukei me baleti ira na [person]?*), where [person] was 24 different

local statuses, roles, relations, or character traits (see Table 2.01). These 24 targets were selected from dictionaries and ethnographic experience to cover a range of social-relational costs, benefits, and institutions (such as a Chief, different classificatory cousins, a diligent person, a liar, an enemy, etc.). The order of presentation of the 24 targets was separately randomized for each participant.

Emotion Scenarios 1

Villagers (N = 8, *M* age = 38 ± 15.3y) were invited to participate in a 20-minute interview in which we would ask them "how [they] would feel as a result of different events" (*me baleta e vakacava na nanuma ni lomamu e na ka e rawa ni yaco*). We made clear that the scenarios were hypothetical events that may not have happened to the participant, and that they could report how they think they would feel were it to happen to them. We asked participants a series of 41 questions with the frame, "How would you feel if [event]?" (*E na vakacava beka na vakarau ni lomamu, kevaka [event]?*), where [event] was 41 locally-relevant events (see Table 2.02). These events were selected to conform to the documented or hypothesized appraisal criteria of a range of hypothesized emotions, including putative basic emotions (e.g., 'anger', 'sadness', 'happiness', 'fear', 'surprise', 'disgust', 'contempt' [Ekman& Friesen 1986]; 'pride' [Tracy & Robins 2008]; 'shame' [Fessler 2004]), emotions thought not to be lexicalized in the Pacific (e.g., 'guilt'; Levy 1973), and theoretically interesting affects subject to little research to date, including 'gratitude' (Algoe et al. 2008), 'elevation' (Schnall et al. 2010), 'admiration' (Algoe & Haidt 2009), 'envy' (van de Ven et al. 2009), and 'schadenfreude' (van Dijk 2006). The order of presentation of the 41 questions was separately randomized for each participant.

Emotion Scenarios 2

Villagers (N = 10, *M* age = 50 ± 14.5y) who had not participated in Emotion Scenarios 1 were recruited and interviewed according to the same protocol, except that 32 new scenarios were used. These scenarios were selected to explore a range of potential emotion gradients (e.g., 'joy', 'contentment', 'despair', 'irritation', 'disappointment'), simple affects (e.g., 'pain', 'pleasure', 'interest'), as well as theoretically interesting distinctions such as prestige- versus dominance-based respect and pride (Henrich & Gil-White 2001; Tracy & Robins 2007; Holbrook et al. in press), contempt, anger, and disgust (the "CAD Triad"; Rozin et al. 1999), and different kinds of disgust (Rozin et al. 1994; Tybur et al. 2009). The order of presentation of the 32 questions was separately randomized for each participant.

2.1.3. Results

Interviews 1-4 generated a range of responses that varied from one-word answers to multi-sentence explanations. Responses were processed and sorted according to their core concepts, which totaled around 185 across the interviews. Of these, many were behaviors (e.g., 'help' [*vukei*], 'jump' [*lade*], 'strike' [*moku*]) or emotional expressions (e.g., 'smile' [*mali*], 'cry' [*tagi*], 'laugh' [*dredre*]). However, many of the most frequent responses across the interviews were apparent emotions or affective evaluations – terms such as 'happy' (*marau*), 'shame' (*madua*), 'hate' (*sevaka*), and 'love' (*lomani*), that referred specifically to states of one's "insides" (*loma-na*), as distinct from "behavior" or "character" (*itovo, ivalavala, ivakarau*). The freelist, attitude target, and first emotion scenarios interviews each yielded roughly equal numbers of unique putative affect terms (23, 24, and 22, respectively), while the second emotion scenario interview, designed to tap hypothesized affects absent from previous response sets, generated an additional 47 unique terms.

The elicitation interviews varied in the kinds of responses they elicited; the most frequently elicited terms within the different interviews were distinct sets of terms. Looking at the terms with a z-score frequency around 1 or greater (i.e., a frequency greater than one standard deviation above the average frequency of terms within an interview), the most frequent Free List terms (Interview 1) were a mix of putative attitudes and emotions, including attitudes like 'love' (*lomani*), 'hate' (*cati*), and 'do not like' (*sega ni taleitaka*), and emotions such as 'concern' (*kauwai*), 'happy' (*marau*), and 'jealous' (*vuvu*). However, the most common terms in the Attitude Target interview were exclusively putative attitudes (e.g., 'hate' [*sevaki, cati*]) or ways of viewing another (e.g., 'look up to' [*raici ira sobu*]). In contrast, seven of the eight most common terms from the two Emotion Scenarios interviews were putative emotions (e.g., 'anger' [*cudru*], 'anxiety' [*taqaya*]), with 'do not like' (*sega ni taleitaka*) being the exceptional attitude (see Table 2.04 for most common terms). Five of the six terms elicited by all four interviews were putative attitudes: 'hate' (*cata, sevaka*), 'love' (*lomani*), 'like' (*taleitaka*), and 'do not like' (*sega ni taleitaka*), with 'happy' (*marau*) the one ubiquitous emotion.

Of the terms selected for further investigation in subsequent interviews (see discussion below), the Free List interview contributed only two unique terms, the Attitude Targets interview contributed three terms, and the Emotion Scenarios 1 interview contributed only one term. In contrast, the Emotion Scenarios 2 interview contributed 10 unique terms that were explored in later interviews, including both Yasawan terms, *borisi* ('anger') and *mataku* ('fear'). Nonetheless, the interviews each elicited roughly equal numbers of terms that i) were elicited by at least one other interview, and that ii) were explored in the characterization interviews (15, 14, 19, and 16 common terms, respectively). 16 of the 40 terms targeted in subsequent interviews arose in at least three of the four elicitation interviews.

Note that here I do not present data on the association of specific terms with targets and events, nor data on the dissociation of terms by their associated events. A preliminary analysis of such data were presented elsewhere (Gervais & Fessler 2010), and more formal analyses are ongoing.

2.1.4. Discussion

The primary goal of the lexicon elicitation tasks was to make explicit the set of concepts that Yasawans use to think about and talk about social affects and evaluations. This goal was achieved. The different elicitation methods each contributed something to the project – the free list provided a sense of the most salient and frequently used terms, while the Attitude Targets and Emotion Scenarios interviews used specific frames that elicited distinct sets of terms, including those that are associated with rare events or kinds of people. The free list proved inadequate to elicit the full range of Yasawan feelings.

Although all interviews were conducted in Standard Fijian, contextualized questions about events nonetheless elicited terms from the Yasawan dialect: *mataku* (‘fear’), *borisi* (‘surprise’), and *kusariko* (‘surprise’). Informal follow-up questioning with villagers indicated that there were no other Yasawan terms referring to one’s “insides”, suggesting that use of Standard Fijian was not a major limitation of the present study. Indeed, it was arguably necessary given the linguistic diversity of a Yasawan village. Several terms were elicited (such as *ninivaka*, ‘angry’) that are neither Standard Fijian nor Yasawan, but part of a communalect from elsewhere in Fiji that is the first language of someone married into Yasawa.

Together the elicitation interviews generated a broad range of terms – many more, in fact, than could be systematically probed for form and function. I arrived at term meanings through a

combination of discussion with villagers, discussion with research assistants, dictionary consultation, and investigation of the targets and scenarios that elicited the terms. I sought to focus on terms that referred to the "way of someone's insides" while excluding terms the meaning of which was most nearly an action or a character trait (*itova, ivalavala, ivakarau*). I also aimed to include as broad a set of affect terms as possible. This meant including potentially illuminating near-synonyms, Yasawan terms with likely synonyms, infrequent yet theoretically interesting terms, and terms/phrases that may not have been strictly affective but which I had reason to believe would illuminate other terms (such as 'look down on', *raici ira sobu*). Rather than exclude all synonyms (*sensu* Lutz 1982), I included sets of closely related terms in proportion to the number of terms that appeared in that set. I reasoned that the more terms there were to discuss processes in a given domain (such as danger), the more important were practical distinctions in that domain in the lives of villagers, and hence the more interested I should be in them. I also conducted a pilot card-sort task including 39 terms preliminarily deemed to be about someone's "insides" (*loma-na*) instead of their "behavior" (*itovo*) (Gervais & Fessler 2010). Subsequent inquiry into the terms included in the pilot sort revealed several to be inappropriate for my purposes (e.g., *loma vinaka*, 'good insides' and *loma ca*, 'bad insides', are character attributions not descriptions of feeling; *rokova,* 'show respect', and *besetaka*, 'reject', are behaviors; *katakata*, 'hot', on its own is only loosely a metaphor for anger; *ninivaka*, 'angry', is used only by a few villagers from the Rewa region of Viti Levu). I had also left out *lomani*, 'love', and several terms related to 'sadness' that emerged only in the second Emotion Scenarios interview (*lomabibi*, "heavy-hearted", and *luluvu*, 'sadness').

Frequency across the interviews was another heuristic for inclusion. For example, I included 17 of the 19 most common terms across the interviews, excluding only *ca* ("bad") as a

general descriptor, and *rokova* ('to show respect') as a behavior. I also included three terms that did not arise in any of the elicitation interviews (*diva,* 'to long for'; *lomalomani koya,* 'self-pity'; and *qoroi koya vakaikoya,* 'self-amazement') as they were theoretically interesting. I was left with 40 terms to include in subsequent characterization interviews focused on how Yasawans conceptualize their emotional experience.

The probabilistic dissociation of terms used to describe how one "feels about someone" (Attitude Targets) and how one "would feel if something happened" (Emotion Scenarios) maps onto the proposed distinction between attitudes as person-specific representations and emotions as embodied responses to events. In addition, the terms that were used most frequently in the Attitude Targets interview have existing translations as putative English attitudes – "love" (*lomani*), "respect" (*dokai*), "like" (*taleitaka*), "contempt" (*beci*), and "hate" (*sevaka, cati*). The concepts underlying these terms appear to be a principal medium for describing evaluations of other people. While Study 2 will contextualize the meanings of these terms through a card sort task, Study 3 will test their pragmatic and functional role in determining emotional responses to events involving other people when only one's "feelings about" them is known.

2.2. Study 2

2.2.1. Affect Lexicon Structure

Study 2 was a card sort task designed to reveal the domain structure of the terms elicited in Study 1, in particular the similarities and differences Yasawan villagers themselves find salient among terms in their affect lexicon (Bernard 2006; Coxon 1999). Participants freely sorted 40 affect terms into piles according to the instruction, "Put those cards together that you think go together" (*ka biuvata nai mau koya iko nanuma ni ra lako vata*). We also asked

participants why the cards in each pile went together, and which card was the best example of each pile (see Table 2.05 for the list of the 40 terms).

2.2.2. Methods

Thirty indigenous Fijians (16 male, *M* age = 41.6y ± 15.1y, range = 21y-72y) from one village of around 200 people participated in the open-ended card sorting task. I drew this sample from a village not employed in any of the other affect lexicon interviews. First, comparing the results of this sort to those of a pilot card sort conducted in the first villages (reported in Gervais & Fessler 2010) gives some idea of how widely the affect lexicon results can be generalized – potentially to the island level. Second, the village sampled for the second sort is the same village in which the RICH economic games were run (see Chapter 3), but in which no lexicon elicitation interviews were conducted. This card sort task provides insight into the village-level meanings of the attitude terms used in that study, and it was run eight months and one visit prior to the dyadic Attitude Rating interviews and RICH economic games (see Ch. 3).

Villagers were invited to participate in a 30-minute interview about which we said, "We would like to show you some cards that have the names of emotions on them, and ask you to arrange them according to their meaning" (*Keitou na via vakaraitaka vei kemuni eso nai mau ka volai tu kina eso nai vakarau ni lomada, ka na vakaraitaki vei iko moni tuvana enai tuvatuva me veiganiti na kenai balebale*). Participants were assured that there were no right or wrong answers, and that we were only interested in what the words meant to them. We made clear that non-participation, or ending the interview early, would not be a problem. We offered no compensation for this interview. All interviews were conducted face-to-face in private, usually sitting on the floor of the participant's own home.

The 40 terms were printed in 28-point font on labels affixed to index cards cut to the size of the label, approx. 1" x 2.5". We shuffled the cards before each interview. We next asked participants to read though all of the cards and indicate any words that were unfamiliar, written incorrectly, or otherwise raised questions. Few questions arose. Next, we gave participants these instructions:

> "We would now like you to arrange these cards into piles, putting those cards together that you think go together. You can group the cards in any way that seems natural to you. You can create as many or as few piles as you like, and each pile can have as many or as few cards as you think belong in that pile. You are free to rearrange the cards and piles until you find an arrangement that seems right to you. Each card can be placed in only one pile." *Keitou na via tuvana nai mau mei binibini, ka biuvata nai mau ko nanuma ni ra lako vata. Iko rawa ni tuvana nai mau enai walewale ga e donu vei kemuni. Iko rawa ni cakava na kena levu ga, se vica nai binibini iko vinakata, ka dua nai binibini e rawa ni tiko kina e levu se vica nai mau iko nanuma ni wili e na dua nai binibini. Tu vei iko na galala mo tuvana tale nai mau ka binia me yacova ni ko sa kunea nai tuvatuva e donu vei iko. Ia, dua nai mau e rawa ni biu kina dua ga nai binibini.*

After recording the final arrangement, we asked participants two additional questions about each pile:

1) "Why do these feelings go together?" (*Na cava na vuna e lako vata kina nai vakarau ni lomada oqo?*).
2) "Which card is the best example of the content of this pile?" (*Nai mau cava e i vakaraitaki vinaka e nai leweni binibini oqo?*)

2.2.3. Results

An average-linkage hierarchical cluster analyses (HCA) of the 40-term open pile sort (a dissimilarity matrix of the total number of times terms were piled together across participants) produced six distinct clusters (see Figure 2.01). I heuristically refer to these as "fear", "hate",

"contempt", "sadness", "love/like", and "respect". Participants overwhelmingly justified their piles by referring to a shared set of antecedents among the terms, either in one's own experience or behavior, or in the behaviors and traits of others. Some reference was also made to common behavioral outcomes (e.g., for "hate"), shared phenomenology (especially for "fear" and "love/like"), and the appropriateness or social consequences of having the feelings in a pile (especially for "hate" and "contempt").

The most distinct cluster was "fear", so called because it included terms for 'fear' (*rere, mataku*), 'terror' (*domobula*), 'anxiety' (*taqaya, ririko, nuiqawaqawa*), 'worry' (*lomaleqa*), and 'surprise' (*kidacala*). Of these terms, *ririko* ('anxiety') was most often nominated as the best example of its pile (23%), and *rere* ('fear', 20%) was a close second. Reasons for piling together the terms in this cluster included common antecedents such as unexpected events (*yaco vakasauri*), bad news (*tukutuku ca*), accidents, uncontrollable dangers (such as hurricanes and tsunamis), and failures to meet the expectations of others. A number of participants also made reference to concomitant confusion (*veilecayaki ni vakasama*) or being unsettled (*sega ni vakadeitaki*).

The next split cleaved the "hate", "contempt" and "sadness" clusters on the one hand from the "love/like" and "respect" clusters on the other. Among these "hate" was the most distinct, and included three sub-clusters: 1) 'hate' (*cata, sevaka*) and 'anger' (*cudru, borisi*), 2) 'disgust' (*vakasisila*) and 'jealousy/envy' (*vuvu*), and 3) 'unhappy' (*sega ni marau*) and 'don't like' (*sega ni taleitaka*). 'Upset' (*rarawa*) and 'indifference' (*sega ni kauwai*) also cleaved with the "hate" cluster, though these latter two terms were the most distinct terms in the cluster. Among all these terms, *sega ni taleitaka* ('do not like') was most often nominated as the best example of its pile (23%), while *sega ni kauwai* ('indifference', 20%) and *sega ni marau*

(‘unhappy’, 17%) followed. Among the terms in the first sub-cluster, *sevaka* (‘hate’, 13%) was the most common exemplar. Reasons for piling together the terms in this cluster included shared antecedents such as someone doing something bad to oneself (*dua na ka ca e caka vei au*), disagreement (*veicalati ni veivosaki*), and bad news, and shared behavioral outcomes, such as pushing away (*besetaka*). Participants also suggested that these feelings are not good to feel, for example they “tell the life of someone who is not good” (*e tukuna na bula ni tamata e sega ni vina*). For piles labeled with *sega ni kauwai* (‘indifference’) specifically, a few participants mentioned someone who thinks only of himself (*dau nanuma koya ga*) and does not think of others (*sega ni dau veinanumi*).

The “sadness” cluster included terms for ‘sadness’ (*luluvu*), ‘heavy-hearted’ (*loma bibi*), ‘pain’ (*mosi*), ‘self-pity’ (*lomalomani koya*), and ‘shame’ (*madua*), although the latter was the most distinct single term in any cluster; it was only slightly closer to the “sadness” cluster than to the “contempt” cluster. *Madua* (‘shame’) was most often selected as the best example of its pile (37%), followed by *lomalomani koya* (‘self-pity’, 30%) and *luluvu* (‘sadness’, 23%). Reasons for piling together the terms in this cluster included common antecedents such as the death of a friend (*itokani*) or relative (*weka*), a problem (*leqa*), one’s own departure from others, and being left out (*biliraki*). For piles labeled with *madua* (‘shame’) in particular, participants described antecedents such as doing something bad, and “changing the views of others towards oneself” (*veisautaka na nanuma ni tamata me baleti au*).

The “contempt” cluster included sub-clusters for 1) ‘contempt’ (*beci*) and ‘no respect’ (*sega ni dokai*), and 2) ‘pride’ (*dokadokai koya*) and ‘arrogance’ (*qoroi koya vakaikoya*), as well as the idiom ‘look down on’ (*raici koya sobu*). *Sega ni dokai* (‘no respect’) was the most common pile exemplar from this cluster (17%), followed by *beci* (‘contempt’, 13%). Reasons for

piling together the terms in this cluster included their describing the attitude of someone who is wealthy (*rawati, vutuni yau*), has a title (*tutu*) or good education (*vuli vinaka*), or who is bad. Participants also said that people who are left out are viewed this way, and that such terms can be used to describe someone who "brings themselves up" (*dau kauta ira cake*) and thinks only of themselves (*nanuma ga me o koya ga*).

The "respect" cluster was the smallest and most integrated of the six clusters, and included terms for 'respect' (*dokai*) and 'admiration' (*qoroi*) (the two most closely linked terms in any cluster), as well as the idiom 'look up to' (*raici koya cake*). *Dokai* ('respect') was the most common pile exemplar from this cluster (40%). Reasons for piling together the terms in this cluster included shared antecedents such as another's good behavior (*tovo vinaka*), chiefly behavior (*tovo vakaturaga*), title (*tutu*), achievements (*rawata*), and many possessions (*levu na ka*).

The "love/like" cluster included three sub-clusters: 1) 'love' (*lomani*) and 'affection/pity' (*loloma*), 2) 'happy' (*marau*), 'joy' (*reki*), and 'excitement' (*malaude*), and 3) 'like' (*taleitakai*), 'desire' (*domona*), 'interest/concern' (*kauwai*), and 'longing' (*diva*). The most common pile exemplar in this cluster was *loloma* ('affection/pity', 70%), followed by *reki* ('joy', 23%) and *marau* ('happy', 20%). Reasons for piling together the terms in this cluster included shared antecedents such as another's good behavior, generosity (*solia*), "good heart" (*yalo vina*), and chiefly behavior (*tovo vakaturaga*), as well as positive events involving oneself, such as Christmas, achievement, and seeing objects that are wanted or desired. While many participants mentioned things that make one happy (*vakamarautaki*), several people mentioned seeing things that "struck their insides" (*lauta na yalo*), such as another's problems, especially when *loloma* ('affection/pity') was the exemplar given.

The six clusters obtained from hierarchical cluster analysis were replicated as a two-dimensional solution using multidimensional scaling (MDS) with classical normalization, stress loss criterion, and L2 dissimilarity computation (stress = 0.19, dilation factor = .77, Procrustes P = 0.11) (see Figure 2.02). As in the HCA, the terms *madua* ('shame') and *sega ni kauwai* ('indifference') were the most distinct and fell between clusters in the two-dimensional space – 'shame' between "sadness" and "hate", and 'indifference' between "hate" and "contempt". Conventionally, a two-dimensional solution with stress below 0.2 is deemed adequate and maximally interpretable (Clarke 1993). However, as should be expected, higher-dimensional solutions did produce results with less stress: three dimensions (stress = 0.11), four dimensions (stress = 0.065), five dimensions (stress = 0.035), six dimensions (stress = 0.023), and seven dimensions (stress = 0.015). Interestingly, each added dimension effectively picked out, in order of their size and distinctiveness, a different cluster from the HCA and 2-dimensional MDS. In a six-dimensional solution, the first dimension juxtaposed the Love/Respect clusters and the Hate/Contempt clusters; the second dimension pulled the Fear cluster off of that dimension; the third dimension juxtaposed the Contempt cluster to the first dimension; the fourth dimension pulled off the Sadness cluster; the fifth dimension pulled off the Respect cluster; and the sixth dimension distinguished the Love and Like sub-clusters. A seventh dimension appeared to distinguish the 'longing' and 'concern' terms from the 'happiness' terms within the Love/Like cluster.

An exploratory factor analysis of the dissimilarity matrix from Study 2 revealed five factors with Eigenvalues greater than 1. Term loadings on these factors mirrored the higher-dimensional solutions with MDS, in which positive loadings for terms in the Love/Like cluster co-occurred with low loadings of terms in each of the other clusters: the Hate cluster (Factor 1;

Eigenvalue = 14.07, 35.2% of variance explained), the Fear cluster (F2; E = 10.91, 27.3% of variance), the Contempt cluster (F3; E = 5.87, 14.7% of variance), the Sadness cluster (F4; E = 4.05, 10.1% of variance), and the Respect cluster (F5; E = 2.51, 6.3% variance).

2.2.4. Discussion

Yasawan Fijians appear to conceptually organize their affective experience primarily according to the relational contexts and implications of different feelings. For example, 'affection/pity' (*loloma*), 'concern/interest' (*kauwai*), and 'longing' (*diva*) all clustered with the positive relational evaluations 'love' (*lomani*) and 'like' (*taleitaka*) as they tend to follow from them within relationships, even though hedonically they may be closer to the terms in the "sadness" cluster. There were also suggestions of categorization based on the social sanctioning of different feelings. These results fit with other studies of affect in the Pacific (e.g., Lutz 1982 in Iflauk; Gerber 1985 in Samoa), and stand in contrast to the results of studies of English speakers that emphasis introspective valence and arousal (e.g., Russell 1980). To be sure, however, some participants did suggest that the terms in the "fear" cluster shared phenomenological correlates like "confusion" and "uncertainty" in addition to shared antecedents. This suggests that introspective dimensions are not unrecognized by Yasawans even if they are not a primary mode of emotional awareness (see Gerber 1985 for a similar argument).

This card sort produced six clusters: "fear", "hate", "contempt", "sadness", "love/like", and "respect". These results are qualitatively similar to an earlier pilot sort, with a sample from a different village, that included only partially overlapping terms (Gervais & Fessler 2010) (see p7 for discussion). However, there was one significant difference: including two terms roughly meaning 'sad' (*luluvu* and *lomabibi*, 'heavy-hearted') in this Study 2 produced a sixth cluster

("sadness") that pulled 'pain' (*mositi*) and 'self-pity' (*lomalomani koya*) off of the "love/like" cluster, and 'shame' (*madua*) off of a space between the "hate" and "contempt" clusters. That terms from the "love/like" cluster relocated to a "sadness" cluster reinforces the salience to Yasawans of the relational contexts of emotions – "sadness" was associated with "love" (see Lutz 1988), until there were sufficient terms to compose a cluster that could be labeled "problems in valuable relationships". Nonetheless, the general robustness of these results to different sets of terms – especially the replication of the first five clusters – reinforces the distinct salience of these clusters in Yasawan experience.

In their similarity judgments, Yasawans draw clear distinctions between different ways of "feeling about" someone (e.g., 'contempt', 'hate', 'respect', 'love', 'like') and the implications of these views for feelings and action within a relationship – for example, caring about someone versus rejecting them, and longing for someone versus not caring about them. In fact, the clustering of all 40 terms appeared to be anchored by these putative attitudes. Only the "fear" and "sadness" clusters lacked clear attitudinal anchors. Note, however, that *rere* ('fear'), one of the key terms in the "fear" cluster, often appeared in Study 1 in an adjectival form *rerevaki* ('scary') and a verbal form *rerevaka* (to fear someone or something) – both suggestive of attitudinal concepts applied to people or things that evoke fear. In addition, given the presence of *madua* ('shame') and *lomalomani koya* ('self-pity') in the "sadness" cluster, it is not a stretch to implicate an attitude towards self in this cluster – a representation akin to "self-esteem" that tracks one's own standing in a social arena (Leary 2005), or specifically in this case, low standing resulting from problems in valued relationships.

Additional insight into the conceptual organization of Yasawan affect comes from the multidimensional scaling data. The two dimensions of the MDS solution may be most profitably

interpreted in line with White (1980) as *solidarity/conflict* (from upper left to lower right; from "love/like" and "respect" to "hate" and "fear"), and *dominance/submission* (from upper right to lower left; from "contempt" to "fear" and "respect"). The existence of hedonically negative terms in the "love/like" cluster, and a hedonically positive term (e.g., 'pride', *dokadokai koya*) in the "contempt" cluster, undermines any claim to a valence dimension, while high-arousal terms in every cluster – 'excitement' (*malaude*) in "love/like", 'amazement/admiration' (*qoroi*) in "respect", 'shame' (*madua*) in "sadness", 'pride' (*dokadokai koya*) in "contempt", 'anger' (*cudru*) and 'disgust' (*vakasisila*) in "hate", and 'terror' (*domobula*) in "fear" – undermines any claim to an arousal dimension. Instead, salient dimensions of social relationships – from Love and Respect to Hate and Fear (*solidarity/conflict*), and from Contempt to Fear and Respect (*dominance/submission*) – plausibly characterize the conceptual structure of Yasawan affect terms (White 1980; see also Fiske 1991; Cuddy et al. 2007). Both communalism and hierarchy are hypercognized dimensions of social relationships in Fiji (Sahlins 1962; Toren 1990), and this patterning of relationships appears to pattern understanding of affect as well. However, as the higher-order MDS and factor analysis results suggest, a two-dimensional solution obscures the uniqueness of each of the six clusters that emerged from the HCA. For example, while 'love' (*lomani*) and 'respect' (*dokai*) have overlapping roles in reinforcing social solidarity in a Fijian village, their relational contexts and implications can be quite different – 'love' undergirds communalism and sharing, while 'respect' reinforces hierarchy, precedence, and influence (Sahlins 1962; Ravuvu 1983; Toren 1990). Preliminary analyses of the dissociation of attitudes across Targets in Interview 2 substantiates the different if overlapping functions of Love and Respect, Hate and Contempt, Sadness and Fear (see Gervais & Fessler 2010).

The sorting of affect terms in Study 2 provided some suggestion of a conceptual linkage among feelings that are causally related to one another. For example, 'happiness' (*marau*), 'affection/pity' (*loloma*), and 'longing' (*diva*) all sorted into the "love/like" cluster. Additionally, in the pilot card-sort task discussed previously, both 'pain' (*mositi*) and 'self-pity' (*lomalomani koya*) sorted into the "Love/like"cluster, implying that these dysphoric feelings saliently often follow from valued relationships. In the HCA, 'indifference' (*sega ni kauwai*) was an outlier in the "hate" cluster and was almost equidistant between the "hate" and "contempt" in the MDS analysis – not surprising on the hypothesis that 'indifference' (or more precisely, "no compassion") to another's suffering follows from both Hate and Contempt. Study 3 addresses more directly, and experimentally, the causal linkages among attitudes and emotions as these might influence the structure of affect lexicons.

2.3. Study 3

2.3.1. The functional relation of attitudes and emotions

Both Study 1 and Study 2 provided suggestive evidence of a functional distinction between emotions and attitudes in the Yasawan affect lexicon. In Study 1, distinct sets of terms were used to characterize social evaluations and to characterize responses to social events. In Study 2, participants sorted 40 affect terms primarily according to the kinds of situations that elicit them, and each emergent cluster appeared to be anchored by a different social attitude concept. Study 3 used vignettes to directly test the role of putative attitudes in moderating emotions across social events. I used a between-subjects manipulation of attitude towards another person (six groups: Love, Respect, Like, Contempt, Hate, and Fear), and asked ten participants per group (N = 60) how they would feel at each of twenty social scenarios involving

a person viewed with that attitude (see Table 2.06 for scenarios). For each scenario, we first allowed participants to freely list their emotional reactions, and then we probed a set of target emotions. Participants rated all emotion magnitudes by pointing along a 6-point Likert scale.

The ASE (Attitude-Scenarios-Emotions) framework makes a number of predictions about how emotional reactions should vary as a function of attitudes. Generally, if attitudes represent relational value, and emotions motivate adaptive behavior (Cosmides & Tooby 2000), then given a social event, attitudes should predispose an emotional response that is adaptive vis-à-vis the implications of the event for the represented value of the relationship. This makes a quantitative prediction:

1) Given an event that predicts receiving one of the fitness affordances of a relationship (such as *encountering* someone), applicable attitudes that represent positive values (such as Love, Respect, Like) will lead to greater levels of emotions that *facilitate* capitalizing on those positive opportunities (such as 'happiness', 'concern/sympathy', or 'interest'), while attitudes that represent negative values (such as Hate and Fear) will lead to greater levels of emotions that *prevent* incurring potentially negative consequences (such as 'anger' and 'fear'). Operationally, this predicts a main effect of Attitude on mean emotion ratings across different Scenarios.

A second, qualitative, prediction also follows:

2) The same event (e.g., *encounter*) will evoke qualitatively distinct emotions from attitudes that represent costs vs. benefits – 'happiness' will follow from Love to facilitate receipt of benefits, while 'anger' will follow from Hate to mitigate exposure to costs. Operationally, this predicts a two-way interaction of Attitude and Emotion within a Scenario.

The ASE framework makes a third prediction:

3) Each attitude is emotionally pluripotent, a "syndrome of episodic dispositions" (Royzman et al. 2005) that adaptively regulates relational behavior by potentiating diverse emotions across interactions and social events (see also Shand 1920; McDougall 1937; Heider 1958). For example, Love may variously lead to 'happiness' at *encounter*, 'concern' at a *request* for help, 'happiness' at a loved one's *victory*, 'shame' at a loved one's public *failure*, 'anger' at their *victimization*, and 'sadness' at their *death*. Operationally, this predicts a two-way interaction of Scenario and Emotion within each Attitude. This stands in stark contrast to one-to-one "attitude as latent emotion" assumption of many emotion researchers (e.g., Frijda 1994; Lazarus 1991).

Finally, this approach makes a fourth prediction:

4) Attitudes with divergent value representations (such as Love and Hate) will have functionally divergent emotion constellations, potentiating the same emotions in starkly different scenarios. Love should potentiate 'happiness' if an event (such as *encounter*) predicts receipt of the benefits proxied by Love, but it will potentiate 'sadness' if an event (such as another's *death*) cues the loss of those benefits – on the hypothesis that 'sadness' is an emotion designed to recruit social support when needed (Keller & Nesse 2006). Love should even predict 'anger' at *death* if another agent is thought to have caused *death* (as is often the case in Fiji owing to witchcraft accusations). In contrast, Hate should also potentiate 'anger', but at *encounter* not *death*, as well as 'happiness', but at *death* not *encounter* (since a source of costs has been removed and there is an opportunity to 'broaden and build' resources; Fredrickson 2002). Operationally, this predicts a three-way interaction of Attitude, Scenario, and Emotion – the impact of divergent scenarios

(e.g., *encounter* and *death*) on divergent emotions (e.g., 'happiness' and 'anger') will be moderated by divergent attitudes (e.g., Love and Hate).

2.3.2. Methods

Sixty indigenous Fijians (30 female, *M* age = 38.2y ± 13.5y, range = 18y-79) sampled from the same two villages as the elicitation interviews participated in this interview. Participants were recruited from a randomized list of all adults present in the two villages. Each participant was invited to participate in a 45-minute interview in which we would ask them about "the ways in which [they] might feel and act following events involving another person" (*na sala ko na rawa ni vakila se na ka ko na cakava salamuria tiko kei na veika e yaco ka okati tiko kina e dua tale na tamata*). We made clear that their answers did not have to reflect how they actually acted or felt in particular events in their lives, but instead how they thought they might feel and act in the described situation. As with the other interviews, we made clear that there were no right or wrong answers, and that they could choose not to participate without any problem.

Participants were first oriented to the emotion rating scale, a six-point Likert scale printed on a sheet of paper, with equidistant hash marks on a line labeled from left to right "sega" (none), "lailai sara" (very little), "lailai" (little), "e so" (some), "levu" (much), and "levu sara" (very much). They were told,

> "I will ask you which emotions you would feel as the result of different events. You should list all of the emotions that you think you would feel, even if you'd feel them just a little. I will also ask you how strongly you would feel those emotions. You will indicate the strength of different feelings by pointing to a spot on this line. (*Au na via taroga na yalo cava iko na vakila ena vuku ni veika duidui e yaco. Iko mo na tukuna mai na veiyalo iko nanuma ni ko na vakila, veitalia ga kevaka o vakila ga vakalailai. Au na via tarogi iko talega, e vakacava sara mada na kaukauwa ni nomu vakila na yalo oya. Iko mo na vakaraitaka mai na kaukauwa ni veiyalo duidui ena nomu dusia na maka ena laini oqo.*)

The RA then gave several examples of using the scale. For example, if they would feel very 'happy' (*marau*) following an event, they should point to "very much" (*levu sara*).

Participants were randomly assigned to one of six between-subjects attitude conditions – Love (*lomana*), Respect (*dokai*), Like (*taleitaka*), Contempt (*beci*), Hate (*sevaka*), and Fear (*rerevaka*) – until five males and five females were in each condition. The attitude manipulation began with the RA saying, "All of the questions I ask you will be about events involving someone you [attitude]" (*Na taro kece au na taroga vei iko ena baleta na ka e yaco ka wili talega kina e dua iko [attitude]*). The 20 scenarios were then asked in an order separately randomized for each participant, except for the *encounter* scenario, which was always asked first to establish a baseline (see Table2.06). For each scenario, the participant was asked, "So, how would you feel if…" (*Koya gone, e na vakacava sara mada na vakarau ni lomamu kevaka…*), followed by the scenario. I thus used the same construction (*vakarau ni lomamu*) for "feel" as in Study 1, For each emotion freely listed, the RA asked, "How much [emotion] would you feel?" (*E vakacava na levu ni [emotion] iko na vakila?*), gesturing towards the printed scale. Next, the RA would probe a target set of emotions for that scenario, except if a target emotion (or its near synonyms) had been already mentioned in the free list. For each target emotion, the RA would ask, "Would you also feel [emotion]?" (*Iko na vakila talega na [emotion]?*), and, if yes, he would ask how much. To end each scenario, the RA would ask, "Finally, how would you act if [scenario]?" (*Kenai otioti, ena vakacava na nomui vukivuki kevaka [scenario]?*). I will not present here analyses of these behavioral responses.

The scenarios used in Study 3 (Table 2.06) were derived from a separate interview not described in this paper: the Causes and Consequences of Affect interview. In this interview, we

asked each of 43 participants three questions about ten affect terms (overall the same 40 terms as in the card sort):

i. "What sorts of people or events cause a Fijian to experience [feeling]?" (*Na cava so na ka (tamata se dua na ka e yaco) e vakavuna me na lako curuma kina e dua nai Taukei na [feeling]?*)

ii. "When a Fijian does experience [feeling], what does s/he want to do or hope will happen?" (*Na gauna e na lako curuma kina e dua nai Taukei na [feeling] oqo, na cava e na vinakata me na cakava se na ka me na yaco?*)

iii. "How does a Fijian actually act when experiencing [feeling]?" (*E vakacava sara beka na nodrai vukivuki nai Taukei ena gauna e lako curumi kina na [feeling]?*).

Among the eliciting conditions of various emotions, participants reported a number of social events involving either generic others, or people viewed with particular attitudes. For example, asked for an event that causes 'concern/compassion' (*kauwai*), one participant said, "someone asks for help" (*dua e kere veivuke*). Asked for an event that causes 'anger' *(cudru*), another participant said, "someone acts harshly towards me" (*dua e vakayacora vei au e so nai tovo kaukauwa*). I gathered all such responses and selected 20 that captured a range of costs and benefits delivered and received by self and other, and for which "someone viewed with [attitude]" could be substituted for the original person mentioned.

In the analyses that follow, I focus only on seven scenarios, for which five have predicted moderation of emotions by attitudes and/or an interaction of scenarios with emotions and attitudes : 1) an *encounter* with another person (with proximity cueing costs, benefits, or nothing, depending on the attitude), 2) a *request* from them for help (benefiting another at some cost, which is only adaptive if they are a source of benefits), 3) they win a *prize* (they benefit from a

zero-sum windfall, which could be good or bad), 4) they are *victimized* by a third party (which could be good, bad, or neither), and 5) they *die* (the cessation of benefits or costs, or no impact to self, depending on the relationship). I also include two scenarios that are predicted to have similar effects on emotions across attitudes: 6) *being treated harshly by* them (nonconsensual cost receipt), which when framed as "harsh" treatment (*nai tovo kaukauwa*) is disrespectful and never justified , and 'anger' functions even within valuable relationships to negotiate better treatment (Sell et al. 2009); and 7) receiving a *gift* from them (they unilaterally confer a benefit, an unalloyed good in Fiji given little evidence of competitive gifting, as well as systems of exchange that do not entail reciprocity; Sahlins 1962), and such benefit receipt can recalibrate representations of value through 'gratitude' ('happiness' in Fiji) and induce a more positive attitude (Tooby et al., 2008).

For each scenario I selected the target emotions (which were probed directly if they were not feely listed by a participant) based on theoretical considerations that predicted meaningful variation or similarities across attitudes. In some case I also targeted attitudes as outcomes (e.g., "Would you also feel 'hate'?) so as to explore how scenarios might change attitudes; I do not present those data here. Between three and five affects were targeted for each scenario (15 in total), and a given target emotion was probed for only a subset of the scenarios. I did this to minimize participant fatigue and to reduce the number of potentially bizarre questions (e.g., "How disgusted would you be if someone you loved gave you a gift?"). Unfortunately, this precludes most omnibus comparisons of emotions across attitudes, as well as many potential high-level comparisons; only a few scenarios share two or more emotions and have predicted interactions of attitude, scenario, and emotion. In the following analyses, I report only a subset of emotions within scenarios, focusing on those attended by clear predictions.

To streamline the interview protocol while maximizing the power of the following analyses, a number of emotion answers were treated as effective synonyms, such that if one was listed in the initial free response, the others were not probed in the follow-up. The clustering patterns from Study 2 guided these decisions, as did dictionary definitions of the terms and our own understanding of them. The equated groups were terms for 'happy' (*marau, reki*), 'angry' (*borisi, cudru, rarawa*), 'afraid' (*rere, mataku, ririko*), 'sad' (*luluvu, loma bibi*), 'worried' (*lomaleqa, taqaya, nuiqawaqaqa*), 'concern' (*kauwai, loloma, mositi au* ['pains me']), 'surprise' (*kidacala, kidroa, kusariko*), and 'admire' (*qoroi, dokadokai*). The terms 'shame' *(madua*), 'envy' (*vuvu*), and 'disgust' *(vakasisila*) were treated separately. Note that I do not report the free list emotion data (for example, comparing the frequencies with which certain emotions were freely listed across attitudes), although inspection of these data suggest that freely listed emotions were almost always among the target emotions to be probed.

2.3.3. Results

2.3.3.1. Social attitudes moderate the magnitude of an emotional response to a scenario

Concern, Happiness, Anger, & Fear at Encounter. Four separate one-way ANOVAs were used to test for differences across the six attitude groups in their mean ratings of 'concern', 'happiness', 'anger', and 'fear' at Ego *encountering* Alter. Each emotion differed significantly across the six groups: 'concern', F (5, 53) = 15.72, $p < .0001$; 'happiness', F (5, 53) = 29.28, $p < .0001$; 'anger', F (5, 54) = 17.19, $p < .0001$; and 'fear', F (5, 54) = 12.14, $p < .0001$. Post-hoc pairwise comparisons with a Bonferroni correction for multiple comparisons revealed that ratings of 'concern' and 'happiness' at *encounter* were greater for the Love, Respect, Like and Contempt attitude groups than for the Hate and Fear groups, which did not differ from one

another. This pattern was reversed for ‘anger’ at *encounter*, which was significantly greater for the Hate and Fear groups than for the Love, Respect, Like or Contempt groups. Ratings of ‘fear’ at *encounter* were significantly greater only for the Fear group compared to the other five groups, which did not differ among themselves (Figure 2.03).

Concern & Anger at Request. Two separate one-way ANOVAs were used to test for differences across the six attitude groups in their mean ratings of ‘concern’ and ‘anger’ at Alter’s *request* for help from Ego. ‘Concern’ differed significantly across the six groups, F (5, 54) = 8.11, $p < .0001$, while ‘anger’ differed only marginally, F (5, 54) = 2.00, $p = .09$. Post-hoc pairwise comparisons with a Bonferroni correction revealed that the Hate and Fear groups reported lower ‘concern’ at *request* than the Love, Respect, and Like groups (Figure 2.04). The Fear group also reported lower ‘concern’ than the Contempt group. A similar set of comparisons revealed that there were no significant group differences in ‘anger’ at *request*. However, removing the conservative Bonferroni correction, both the Hate and Fear group reported greater ‘anger’ at *request* than the Love, Respect, and Like groups. A post-hoc contrast analysis found that the average of the ‘anger’ means of Hate and Fear was greater than the average of Love, Respect, and Like, F (1, 54) = 8.22, $p = .006$, suggesting a power problem in the simple group comparisons.

Happiness & Envy at Prize. Two separate one-way ANOVAs were used to test for differences across the six attitude groups in their mean ratings of ‘happiness’ and ‘envy’ at Alter winning a *prize*. Both emotions differed significantly across the six groups: ‘happiness’, F (5, 54) = 4.16, $p = .003$; ‘envy’, F (5, 54) = 3.82, $p = .005$. Post-hoc pairwise comparisons with a Bonferroni correction revealed that both the Hate and Fear groups reported lower ‘happiness’ at *prize* than did the Love and Respect groups. A similar set of comparisons for ‘envy’ revealed

that the Hate group reported greater 'envy' at *prize* than the Love, Respect, or Contempt groups (Figure 2.05).

Anger & Happiness at Victimization. Two separate one-way ANOVAs were used to test for differences across the six attitude groups in their mean ratings of 'anger' and 'happiness' at Alter's *victimization* by a third party. Levels of 'anger' differed only marginally across the six groups, F (5, 54) = 2.18, p = .07, while 'happiness' differed significantly, F (5, 54) = 6.06, p = .0002. Post-hoc pairwise comparisons with a Bonferroni correction revealed that ratings of 'anger' at *victimization* were marginally higher for the Respect group than for the Hate group. Removing this conservative correction, the Respect group reported greater 'anger' at *victimization* than both the Hate and Fear groups. A post-hoc contrast analysis found that the average of the 'anger' means of Love, Respect, and Like was higher than the average of Hate and Fear, F (1, 54) = 18.56, p = .0001. Post-hoc pairwise comparisons with a Bonferroni correction revealed that ratings of 'happiness' at *victimization* were significantly greater for the Hate and Fear groups than for the Love, Respect, Like, and Contempt groups (Figure 2.06).

Sadness & Happiness at Death. Two separate one-way ANOVAs were used to test for differences across the six attitude groups in their mean ratings of 'sadness' and 'happiness' at Alter's *death*. Both emotions differed significantly across the six groups: 'sadness', F (5, 54) = 7.72, $p < .0001$, and 'happiness', F (5, 54) = 4.11, p = .003. Post-hoc pairwise comparisons with a Bonferroni correction revealed that ratings of 'sadness' at *death* were significantly greater for the Love, Respect, and Like groups than for the Hate and Fear groups (Figure 2.07). 'Sadness' ratings at *death* by the Contempt group were middling and did not differ significantly from any of the other groups. Bonferroni corrected, ratings of 'happiness' at *death* were significantly greater for the Fear group than for the Respect and Like groups. Removing this conservative

correction, ‘happiness’ at *death* was greater for both the Hate and Fear groups than for the Love, Respect, and Like groups. A post-hoc contrast analysis found that the average of the mean ‘happiness’ ratings of the Love, Respect, and Like groups was lower than the average of the Hate and Fear groups, F (1, 54) = 15.07, p = .0003.

Happiness & Anger at Gift. Two separate one-way ANOVAs were used to test for differences across the six attitude groups in their mean ratings of ‘happiness and ‘anger’ at Ego receiving a *gift* from Alter. ‘Happiness’ differed significantly across the groups, F (5, 54) = 2.40, $p < .05$, while ‘anger’ did not, F (5, 54) = 1.00, $p > .40$. Post-hoc pairwise comparisons with a Bonferroni correction revealed that there were no significant pairwise differences in ‘happiness’ among the groups. Removing this conservative correction, the Hate group reported lower ‘happiness’ at a *gift* than the Love, Respect, Like, and Contempt groups. A post-hoc contrast analysis found that the average of the ‘happiness’ means of Hate and Fear was significantly lower than the average of Love, Respect, Like, and Contempt, F (1, 54) = 11.04, $p < .002$ (Figure 2.08). Virtually no ‘anger’ at *gift* was reported by any of the groups.

Anger at Harsh treatment. A one-way ANOVA was used to test for differences across the six attitude groups in their mean ratings of ‘anger’ at Ego receiving *harsh* treatment from Alter. ‘Anger’ did not differ significantly across the groups, F (5, 53) = 1.65, p = .16 (Figure 2.09).

2.3.3.2. Social attitudes moderate which emotion follows from a scenario

Happiness vs. Anger at Encounter. A two-way ANOVA was used to test for an interaction of Attitude (six groups) and Emotion (‘happiness’ vs. ‘anger’) on mean emotion ratings for *encounter. T*here was no main effect of Attitude on emotion ratings when ‘happiness’ and ‘anger’ were collapsed, F (5, 107) = .69, p = .63. There was a main effect of Emotion when

collapsing across attitudes, F (1, 107) = 68.03, $p < .0001$, with the mean of 'happiness' greater than for 'anger'. The predicted two-way interaction of Attitude and Emotion was also significant, F (5, 107) = 45.23, $p < .0001$ (see Figure 2.03, red and green lines). A post-hoc contrast analysis revealed that 'happiness' ratings were significantly greater than 'anger' ratings for the Love, Respect, Like, and Contempt groups, while the Hate and Fear groups reported significantly greater 'anger' than 'happiness' at *encounter*.

Concern vs. Anger at Request. A two-way ANOVA was used to test for an interaction of attitude (six groups) and emotion ('concern' vs. 'anger') on mean emotion ratings for *request.* There was no main effect of Attitude on emotion ratings when 'concern' and 'anger' were collapsed, F (5, 108) = 1.31, $p = .27$. There was a main effect of Emotion when collapsing across attitudes, F (1, 108) = 188.87, $p < .0001$, with the mean ratings for 'concern' greater than for 'anger'. The predicted two-way interaction of Attitude and Emotion was also significant, F (5, 108) = 8.92, $p < .0001$. A post-hoc contrast analysis revealed that 'concern' ratings were significantly greater than 'anger' ratings for the Love, Respect, Like, and Contempt groups. Hate showed marginally greater 'concern' than 'anger', while Fear showed similar levels of 'concern' and 'anger' at *request* (Figure 2.04).

Happiness vs. Envy at Prize. A two-way ANOVA was used to test for an interaction of Attitude (six groups) and Emotion ('happiness vs. 'envy') on mean emotion ratings for *prize.* There was no main effect of Attitude on emotion ratings when 'happiness and 'envy' were collapsed, F (5, 108) = 0.20, $p = .96$. There was a main effect of Emotion when collapsing across attitudes, F (1, 108) = 155.60, $p < .0001$, with the mean ratings for 'happiness' greater than for 'envy'. The predicted two-way interaction of Attitude and Emotion was also significant, F (5, 108) = 7.81, $p < .0001$. A post-hoc contrast analysis revealed that 'happiness' ratings were

significantly greater than ‘envy’ ratings for the Love, Respect, Like, and Contempt groups. Fear showed marginally greater ‘happiness’ than ‘envy’, while Hate showed similar levels of ‘happiness’ and ‘envy’ at *prize* (Figure 2.05).

Anger vs. Happiness at Victimization. A two-way ANOVA was used to test for an interaction of Attitude (six groups) and Emotion (‘anger’ vs. ‘happiness’) on mean emotion ratings for *victimization.* There was no main effect of Attitude on emotion ratings when ‘anger’ and ‘happiness’ were collapsed, F (5, 108) = 0.48, p = .79. There was a main effect of Emotion when collapsing across attitudes, F (1, 108) = 28.83, p < .0001, with the mean ratings for ‘anger’ greater than for ‘happiness’. The predicted two-way interaction of Attitude and Emotion was also significant, F (5, 108) = 6.78, p < .0001. A post-hoc contrast analysis revealed that ‘anger’ ratings were significantly greater than ‘happiness’ ratings for Love, Respect, Like, and Contempt, but not for Hate and Fear, which both showed a non-significant trend to greater ‘happiness’ than ‘anger’ at *victimization* (Figure 2.06).

Sadness vs. Happiness at Death. A two-way ANOVA was used to test for an interaction of Attitude (six groups) and Emotion (‘sadness’ vs. ‘happiness’) on mean emotion ratings for *death*. There was no main effect of Attitude on emotion ratings when ‘sadness’ and ‘happiness’ were collapsed, F (5, 108) =0.44, p = .82. There was a main effect of Emotion when collapsing across attitudes, F (1, 108) = 84.45, p <.0001, with the mean for ‘sadness’ greater than for ‘happiness’. The predicted two-way interaction of Attitude and Emotion was also significant, F (5, 108) = 10.72, p < .0001. A post-hoc contrast analysis revealed that ‘sadness’ ratings were significantly greater than ‘happiness’ ratings for Love, Respect, Like, and Contempt, but not for Hate and Fear, which showed indistinguishable levels of ‘sadness’ and ‘happiness’ at *death* (Figure 2.07).

2.3.3.3. Each social attitude is emotionally pluripotent

Happiness vs Anger at Encounter vs. Death. Six separate two-way ANOVAs were used to test for an interaction of Scenario (*encounter vs. death*) and Emotion ('happiness' vs. 'anger) for each Attitude group. I analyze 'anger' instead of 'sadness' because I did not target 'sadness' in the *encounter* scenario. Controlling for participant ID as a random within-subjects variable (both Scenario and Emotion are repeated measures within Attitude), all attitude groups showed the predicted Scenario x Emotion interaction: Love, F (1, 26) = 57.43, $p < .0001$; Respect, F (1, 27) = 57.99, $p < .0001$; Like, F (1, 27) = 81.41, $p < .0001$; Contempt, F (1, 27) = 7.72, $p < .01$; Hate, F (1, 27) = 11.71, $p = .002$; Fear, F (1, 27) = 14.20, $p < .001$. Post-hoc contrast analyses revealed that for Love, Respect, and Like, 'happiness' was significantly greater than 'anger' at *encounter*, while 'anger' was significantly greater than 'happiness' at *death* (see Figure 2.10). For Contempt, 'happiness' was significantly greater than 'anger' at *encounter*, yet these two emotions were not significantly different at *death*. For Hate, 'anger' was significantly greater than 'happiness' at *encounter*, and 'happiness' trended towards being greater than 'anger' at *death* ($F = 2.36$, $p = .14$). For Fear, both of these effects were significant: 'anger' was greater than 'happiness' at *encounter*, and 'happiness' was greater than 'anger' at *death*.

2.3.3.4. Divergent attitudes can produce the same emotion in different scenarios

Attitudes moderate Happiness vs. Anger at Encounter vs. Death. A three-way ANOVA was used to test for moderation by Attitudes of the two-way interaction of Emotion and Scenario. Comparing Love and Hate, the predicted three-way interaction was highly significant, F (1, 71) = 60.04, $p < .0001$. A post-hoc contrast analysis (using the Stata command "margins

scenario#emotion, dydx(attitude)") revealed that Love and Hate produced significantly different levels of 'happiness' and 'anger' at both *encounter* and *death*, with their effects reversing in the two scenarios: For Love, 'happiness' was greater than 'anger' during *encounter* and 'anger' was greater than 'happiness' during *death*, yet for Hate the reverse was true (Figure 2.10). Controlling for participant ID as a random within-subjects covariate only slightly reduced the three-way interaction, F (1, 53) = 51.16, p <.0001.

There were qualitatively similar results, including the reversal of the two-way Scenario x Emotion interaction, comparing Love and Fear, F (1. 71) = 55.17, p < .0001; Respect and Hate, F (1, 72) = 60.22, p < .0001; Respect and Fear, F (1, 72) = 55.56, p < .0001; Like and Hate, F (1, 72) = 69.72, p < .0001; and Like and Fear, F (1, 72) = 63.46, p < .0001. There were also significant three-way interactions for Contempt and Hate, F (1, 72) = 22.94, p < .0001, and Contempt and Fear, F (1, 72) = 22.29, p < .0001, although in both comparisons levels of 'happiness' and 'anger' at *death* were not significantly different between the attitudes. Contempt also showed a significant three-way interaction with Love, F (1, 71) = 4.81, p < .05; Respect, F (1, 72) = 4.93, p < .05; and Like, F (1, 72) = 6.41, p < .05. While the two-way interactions of Scenario and Emotion were in the same direction for Contempt and the three positive Attitudes, post-hoc analyses showed that similar levels of 'happiness' and 'anger' at *death* in the Contempt group drove the three-way interactions, as Love, Respect, and Like each resulted in significantly greater 'anger' than 'happiness' at *death*. All of the preceding three-way interactions were only slightly weakened, and remained significant, controlling for participant ID as a random within-subjects covariate. There were no three-way interactions comparing Love, Respect, and Like to one another.

2.3.4. Discussion

The results of Study 3 generally support the predictions of the ASE framework. Across Attitudes, Scenarios, and Emotions, attitudes moderate emotional responses to social events. Within scenarios, attitudes both moderate the magnitude of one emotional response, and which emotion occurs most strongly. Across scenarios, a given attitude can produce a range of emotional responses, and divergent attitudes can produce the same emotions under starkly different circumstances. The *encounter* scenario, always presented first, produced clear evidence that different attitudes evoke particular emotions at the simple presence of their object: Love, Respect, and Like led to 'happiness' and 'interest/concern', while Hate produced 'anger', and Fear led to both 'anger' and 'fear'. We might think of these attitude-emotion relationships as the "default" motives that follow from attitudes and which tend to characterize a relationship thus represented. However, there is not *merely* a one-to-one mapping of attitudes and emotions, in which Love is latent 'concern' and Hate is latent 'anger' (*sensu* Frijda 1994). Instead, attitudes are are causally linked to a constellation of emotions across scenarios, plausibly facilitating adaptive responses to the implications of various events for the relationships they represent. These coherent attitude-emotion clusters appear quite intuitive to English speakers, yet they emerged from a bottom-up study of affective experience among Yasawans, who use a very different language (Austronesian), in a very different social ecology (small-scale hierarchical fisher-horticulturalists), in a culture area known to display significant differences in affective experience from Western populations (e.g., White & Kirkpatrick 1985). While English speakers have clearly had a significant impact on Fiji (Derrick 1950; Lal 1992), the deep resonance of these Fijian results should be taken as suggestive evidence that functional attitude-emotion linkages are a universal feature of human relationship psychology.

In Study 3, Love, Respect, and Like generally had parallel effects. All three produced a constellation of emotions that are likely adaptive relative to a valued relationship partner: 'happiness' but not 'anger' or 'fear' at *encounter*, 'concern' but not 'anger' at *request*, 'happiness' but not 'envy' at their winning a *prize*, 'anger' but not 'happiness' at their *victimization*, and 'sadness' but not 'happiness' at their *death*, among other effects. In several analyses with likely power issues due to small samples, averaging the ratings of Love, Respect, and Like produced clear differences in their joint effects relative to the average of Hate and Fear. However, is it somewhat surprising that Respect did not uniquely elicit 'fear' at *encounter*, given the rich, strict norms that attend status-based interactions in Fiji. I did not probe 'shame' at *encounter*, but perhaps this would have tapped the relevant emotion; human 'shame' has been shown to operate in contexts of strong status asymmetries (Fessler 2004).

Hate and Fear also had similar effects on emotions across scenarios, although there were some interesting points of divergence. Fear was the only attitude to produce 'fear' at *encounter*; Fear arguably represents another as constituting a clear and present danger to self, and encountering such a person ought to mobilize resources to fight or flee. Only Hate produced greater 'envy' at *prize* than did Love, Respect, Like, and Contempt. This is not surprising, if Hate represents the extent to which another is a competitor in zero-sum resource games.

Contempt tended to have more similar effects to the positive attitudes than to the negative attitudes. This runs counter to predictions from accounts that place 'contempt' with anger, hate, and disgust in the landscape of person perception (e.g., Cuddy et al. 2007). However, these results do not provide clear support for the rendering presented in Chapter 1 of 'contempt' as devaluation that leads to indifference and intolerance. Relative to Hate, Contempt did lead to less 'envy' at *prize*, less 'happiness' at *victimization*, and greater 'happiness' at *gift*, predictions that

support the distinction drawn in Chapter 1 between Hate as a representation of a costly competitor, and Contempt as a representation of low positive value. However, comparing the effects of Contempt on different emotions within scenarios, Contempt led to greater 'concern' than 'anger' at *request*, greater 'happiness' than 'envy' at *prize*, greater 'anger' than 'happiness' at *victimization*, and greater 'sadness' than 'happiness' at *death*, though not greater 'anger' than 'happiness' at death. Contempt also led to no less 'happiness' or 'concern', and no more 'anger', than did Love, Respect, and Like at *encounter* and *request*. The effects of Contempt were sometimes middling, and did not differ significantly from either the positive or the negative attitudes; for example, for levels of happiness at another's *prize*, and levels of 'sadness' at their *death*. Nevertheless, in general, the effects involving Contempt are inconsistent with indifference and reactive intolerance. Instead, in this study in Fiji, Contempt appears closer to a representation that motivates pity – representing low efficacy but high communion – than to a representation of the "lowest of the low" (Harris & Fiske 2006). Convergent with this, in Study 2 'contempt' was closely related to 'no respect' and 'looking down on' someone, and less related to 'hate' and 'disgust'. Speculatively, in Fiji, ecological risk and social interdependence, combined with norms of *noblesse oblige* and charity, undercut the extent to which someone who is low in efficacy and represented with Contempt is actually subject to indifference and intolerance.

Study 3 measured verbal responses to hypothetical events involving an imaginary person described with a single "feeling about", or attitude – Love, or Respect, or Hate, etc. On the one hand, it is remarkable that such a minimal manipulation, devoid of all other relational information, produced such clear results, at least comparing widely divergent attitudes (e.g., Love and Hate). On the other hand, the experience-distant nature of the manipulation could

explain the similar results among positive and negative attitudes, and the cleavage of Contempt with the positive attitudes. Contempt may well moderate emotions in line with the predictions of Chapter 1 (indifference and intolerance), yet prescriptive norms of charity and forgiveness may have skewed answers towards a compassionate and tolerant form of contempt. More generally, the results here could reflect nothing more than local "discourses on emotion" (Abu-Lughod & Lutz 1990), rather than the patterning of actual emotional experience. However, the results with Hate undercut this criticism in its strongest form. Hate is proscribed in a Fijian village, both in traditionalist discourse and in Christian doctrine. Nowhere is it said that happiness at another's death is Fijian, good, or even acceptable. Yet participants in Study 3 reported feeling as much 'happiness' (*marau*) at the death of someone hated as 'sadness' (*luluvu*) or 'anger' (*borisi*). Participants appeared to be reporting from their personal experience more than reciting a norm. Note also that the study of attitudes within actual relationships – their intercorrelations, their causes, and especially their behavioral consequences – is a task taken up in Chapter 3. In that study, villagers readily report feeling 'hate' (*sevaka*) and 'contempt' (*beci*) towards other specific villagers, these two attitudes are correlated within relationships, and they predict divergent behaviors in the different RICH games – 'contempt' appearing as an absence of 'love' and 'respect' and predicting low giving and high taking, while 'hate' predicts costly punishment.

2.4. General Discussion

Fijians pragmatically and intuitively, if not explicitly, distinguish between evaluations of relationships ("feelings about", *attitudes*) and responses to relational events ("feelings because", *emotions*). They do not, as far as I could ascertain, explicitly lexicalize this distinction in simple terms like "emotion" and "attitude", but it emerged in the distinct sets of terms used most

frequently in the different structured interviews of Study 1. While there was no clear distinction between attitudes and emotions in Study 2 (each cluster of the HCA contained both), the clusters appeared anchored by attitudes, and the two-dimensional MDS solution appeared undergirded by social-relational axes. Study 3 provided evidence to support the hypothesized causal links among attitudes and emotions, particularly in the direction of attitudes moderating emotions across scenarios.

There was a suggestion in Study 2 that Yasawans conceptually link attitudes and emotions that are causally linked – for example, 'love' and 'compassion', 'hate' and 'anger', 'respect' and 'admiration'. While Study 3 showed that attitudes are causally linked to multiple emotions, and that divergent attitudes can lead to the same emotions at different times, the *encounter* scenario suggested that particular attitudes have 'default' emotional dispositions that are engaged simply by the presence of another, and likely also by their thriving (e.g., *prize*). Such 'default' emotions correspond to the 'latent emotions' implicated in many treatments of attitudes by emotions researchers (e.g., Lazarus 1991; Frijda 1994), and they may be salient components of attitude concepts across societies.

The ASE framework, as an approach to the causal-functional networks underlying affective experience, ascribes a potentially universal grammar to affect that is nonetheless consistent with cultural variation in the experiences and meanings of particular affective states. Specifically, the framework can illuminate cultural variation in affective worlds as differentially salient attitude-emotion linkages across ecological, relational, and normative contexts. Attitude concepts should be more or less tinted with the particular emotions that they tend to evoke. Beyond 'default emotions', the emotional pluripotence of attitudes implies that the frequency of different scenarios involving particular kinds of relationships – and hence the most common

experienced progressions from particular attitudes to particular emotions – will influence the experienced structure of affect, and likely the conceptual structure as well. Love may *mean* happiness or sadness, compassion or lust, depending on the prototypical situations in which relationships of dependence are involved. This may explain variation in the meaning of the nearest translations for "love" across societies, for example in the Pacific. Lutz (1988) argues that 'love' (*fago*) on the Micronesian atoll of Ifaluk is less about limerence, joy, and contentment, as connoted by the English term, and more about compassion, pity, sadness, and loss. From this Lutz argues for the cultural construction of affect and incommensurate affective worlds across cultures. However, as Study 3 demonstrates, a Pacific term for 'love' (*lomani*) can be associated with happiness, compassion, and sadness across different situations, even if its closest association is with 'compassion' (*loloma*). Indeed, across Polynesia, 'love' is associated with a cluster of meanings including "concern, kindness, hope, sadness, care, help, gifts, sharing, and sexual love" (Morton 1996, 80). Yet as Lutz acknowledges, on a tiny coral atoll such as Ifaluk, 'love' implies separation, longing, and loss because these are the emotions most saliently mobilized in a dependence relationship when it is readily exposed to the unpredictable power of the Pacific ocean, and tested by long travels to markets and education,

A second upshot of the ASE framework is that societies can vary in whether they emphasize the enduring evaluative core of relationships (i.e., attitudes), or more fleeting emotions as they index discrete events and influence physiology, motives, and behavior. Such a distinction is apparent in comparisons of Pacific affect lexicons and those of Western English speakers (Lutz 1982). These differences articulate with ethnopsychological differences in the salience of social-relational connections compared to subjective experience, and likely follow from socio-ecological differences in relational interdependence, as well as differences in the

lived frequencies of deep-engagement relationships, and differences in the cultural valuation of independence and relational mobility (Markus & Kitayama 1991). The distinction between emotions and attitudes may thus provide a fruitful dimension for considering the axes along which understandings of self and other vary across cultures.

CHAPTER 3

Attitudes and Inequity Aversion Structure an Egalitarian Hierarchy in Fiji: Evidence from RICH Economic Games

1. Introduction

1.1. Social Relationships and Human Uniqueness

Describing and explaining human uniqueness remains the central project of the evolutionary human sciences (Hrdy 2009; Pinker 2010; Bowles & Gintis 2011; Boyd et al. 2011; Boehm 2012; Tomasello et al. 2012; Whiten & Erdal 2012). Altruism among strangers has figured prominently in all such discussions as a uniquely human phenomenon that is both difficult to explain and integral to large-scale collective action and other Holocene institutions (Fehr & Henrich 2003; Henrich et al. 2010; Bowles & Gintis 2011; Mathew & Boyd 2011). Using ethnographically-informed economic games, recent work has documented a ubiquitous propensity of humans to engage in altruism and costly punishment in anonymous one-shot encounters, as well as population variation in such behaviors as a function of market integration, religion, demography, and ecology (Henrich et al., 2004, 2005, 2010; Marlowe et al., 2008, 2010; Lamba & Mace 2011).

While evolutionary scientists increasingly understand the patterning and predictors of norms for impersonal interactions as these regulate markets and large-scale cooperation, there are no comparable comparative data on the norms and decision heuristics that obtain within

enduring human social relationships (but cf. Fiske 1991, 2004). Yet such data should be central in evolutionary approaches to human behavior for at least five reasons.

First, understanding the origins of human uniqueness will require understanding human relationship dynamics. Human uniqueness arose in the context of face-to-face communities tens if not hundreds of thousands of years before the agricultural revolution, with the rise of traits such as egalitarianism (Boehm 1999), cooperative large-game hunting (Stiner et al. 2002), large social networks of non-kin (Chapais 2009; Hill et al. 2011), and cumulative cultural transmission (Boyd et al. 2011). Modern hunter-gatherers possess uniquely human social structures, resource distribution norms, and sanctioning contingencies despite a relative dearth of one-shot encounters and norms for regulating one-shot interactions (Boehm 1999; Wiessner 2005; Gurven & Winking 2008; Hill et al. 2011).

Second, enduring relationships remain integral to human adaptation across societies. Human social networks may have more or less similar sizes across social structures and economies (Dunbar 1993; Zhou et al. 2005), and the social networks of hunter-gatherers show remarkably similar structure to those of urban populations (Apicella et al. 2012). As with a number of non-human primates (Silk et al 2009), in modern human environments social support within enduring relationships remains the arbiter of critical health outcomes (Yang et al. 2013).

Third, cooperation within relationships, even among non-relatives, may be relatively easy to explain in theory – facilitated by mechanisms such as direct reciprocity (Trivers 1971; Axlerod & Hamilton 1981), indirect reciprocity (Alexander 1987; Milinski et al., 2002; Panchanathan & Boyd 2004), signaling (Hawkes 1993; Smith & Bliege Bird 2000; Gintis et al. 2001; Barclay & Willer 2007), and fitness interdependence (Tooby & Cosmides 1996; Roberts 2005; Nettle et al. 2011; Tomasello et al. 2012) – yet the role of such mechanisms in human

cooperation remains much debated. Behavioral ecologists have shown that many of these mechanisms likely operate in face-to-face communities (Gurven et al., 2000; Hawkes & Bliege Bird 2002; Gurven 2004; Allen Arave et al., 2008; Nolin 2012; Macfarlan et al. 2013), but we do not have systematic comparative data on how relationships structure cooperation, nor can we reliably assess whether ecological, demographic, or cultural factors predict variation in relational cooperation across communities.

Fourth, social norms and moral intuitions such as fairness, obligation, and entitlement are widely conditioned on various aspects of individuals and social relationships (Edgerton 1985; Fiske 1991; Gurven 2006; Rai & Fiske 2011). Previous economic experiments have shown that even schematic identifying information about targets, such as their relative status (Hoffman et al. 1994; Fiddick & Cummins 2007; Baldassarri & Grossman 2013), reputation (Milinski et al. 2002; Rand et al. 2011), social group or ethnicity (Fershtman & Gneezy 2001; Paccioti & Hadley 2003; Baldassari & Grossman 2013), or attractiveness (Wilson & Eckel 2006), has a large influence on economic decisions. Such manipulations only scratch the surface of how social relationships influence decision making. Documenting the patterning of social behaviors across relationships, both within and among societies, is critical to understanding the range of human moralities, and the mechanisms that support cooperative equilibria at different social scales.

Fifth, the proximate mechanisms operating within relationships likely differ from those regulating impersonal interactions. Previous studies of cooperation among strangers (e.g., Henrich et al., 2004, 2010) have typically employed two forms of anonymity: *decider anonymity*, in which decisions remain confidential (though see Barr 2001; Gachter & Fehr 1999; Henrich & Smith 2004; Hill & Gurven 2004), and *target anonymity*, in which decisions are made towards targets of unknown identity – targets are usually unidentified members of some circumscribed

community. *Decider* anonymity is used to control strategic motivations related to reputation, repeat interactions, and sanctions, while leaving intact endogenous social preferences to help or harm, pursue equality or advantage, etc. (Camerer & Fehr 2004). *Target* anonymity, on the other hand, is used precisely to remove the expectations and motivations that apply within enduring relationships, "forcing players to default to local norms for dealing with people outside durable relationships" (Henrich et al. 2010, p4). While results from economic games with anonymous targets apparently do generalize to naturalistic behavior in impersonal interactions (Nettle et al. 2011; Franzen & Pointner 2012), their results diverge from behavior in richer relational contexts (Gurven & Winking 2008; Wiessner 2009), and they only inconsistently tap local social norms in small-scale societies (e.g., Ensminger 2004). Behavioral heuristics such as "generalized social trust" or the "social exchange heuristic" (Kiyonari et al. 2000) apply when other target information is unavailable, but they do not predict behavior when targets are known (Sonderskov 2011). Behavior within enduring relationships is likely influenced by myriad *recipient identity-conditioned heuristics*, or RICHs – including norms relating to states, roles, and statuses, and endogenous relational attitudes such as love, respect, and hate, that represent relational value. Yet we know little about how RICHs operate across societies, in part because neither experimental economic nor behavioral ecological studies of social behavior consistently gather psychological covariates. Such data are essential to unpacking the interaction of socially learned norms and evoked decision heuristics in the regulation of enduring relationships (Tooby & Cosmides 1992; Fiske 2000).

Arguably, understanding both the origins of human uniqueness and the forms and proximate bases of human social adaptation in most places and at most times will require comparative data on how altruism and punishment operate within, and vary among, enduring

relationships and social networks. The present study initiates such an enterprise by adapting economic game methods to study cooperation and punishment within enduring networked relationships in a Fijian village. The goals are threefold: 1) to develop and validate methods that will facilitate the systematic comparative study of social relationship structures and dynamics; 2) to map the individual and dyadic predictors of altruism and punishment in a Fijian village; and 3) to evaluate hypotheses about the proximate mechanisms that underlie such relational behaviors.

1.2. Present Study

This study describes three RICH economic games. These include an Allocation Game (similar to an *N*-recipient Dictator Game), a Taking Game (similar to the "Social Strategies Game" of Rucas et al. 2010), and a Costly Reduction Game (similar to an *N*-recipient Costly Punishment Game; see), which respectively measure short-term behavioral altruism, selfishness, and spite (or "investing", "cheating", and "punishing"; Bshary & Bergmuller 2008). These games preserve decider anonymity, utilize monetary incentives, and are replicable across studies and sites. However, they depart from standard anonymous-target games in two significant ways. First, they fully integrate recipient identities by presenting decision makers with photos of known recipients. Both deciders and recipients come from the same community, and have life-long histories of interaction as well as relationships attended by many identity-specific norms. Second, unlike standard single-recipient studies, these games entail parallel decisions made across an array of targets, potentially including an entire social network. This change generates data on many more relationships than single-recipient games would allow, while introducing a degree of realism that characterizes communities; resource allocation decisions often entail tradeoffs among potential recipients, such that resources given to one recipient cannot be given to another, and resources expended to punish a target cannot be used to punish another. Together,

these changes – recipient identification, and other-other tradeoffs – capture critical aspects of social decisions within relationships and communities, and allow these games to measure a wide variety of RICH norms and motives. In the metaphor of Camerer and Fehr (2004), these games add realistic color and depth to the line drawings of anonymous-target games so as to paint a richer picture of the patterning of human social life.

The sample in this study is the male social network in a small fishing-horticultural village in Yasawa, Fiji. All 50 men who played all three games were also targets in the games for the other 49 deciders, generating reciprocal dyadic data. This sample presents a number of affordances for studying RICH norms and attitudes. First, while these were the first economic games played in this village, other villages in the same population, on the same island, have been well characterized using anonymous-target games (Henrich & Henrich 2006; Henrich et al. 2010; Marlowe et al., 2010). This allows some measure of comparison among the present RICH games and standard games. Second, a Yasawan village is a relatively small, closed, demographically complete, and economically independent community. Sampling the social network of such a village allows for a relatively complete understanding of the factors that pattern relationships within a community. Third, a Yasawan village is composed of life-long relationships with cross-cutting bases that include biological relatedness, diverse kinship norms, inherited and achieved status asymmetries, differentiated economic interdependencies, several church congregations, and individual variation in market integration. Appropriately measured and included as covariates, these variables can be pitted against one another as predictors of relational behavior. The present report focuses on target traits and statuses as proxies of relational value and moderators of decisions towards targets. Specifically, multivariate models of target outcomes include five unique predictors that emerge from a factor analysis of diverse

target traits: Chiefliness (an unalloyed good including efficacy and generosity), Elderliness (an ambivalent source of leadership, constraint, and dependence), Hotheadedness (a source of costs in a small community), Education, and Income (both achieved statuses that entail tradeoffs with village life).

Data on the psychological bases of relational behavior in these games come from ratings by each participant of how much he felt each of six attitudes towards each other participant. These interpersonal attitudes were locally-valid Fijian concepts roughly translatable as love, respect, liking, contempt, hate, and fear. The use of these terms follows from the in-depth study of the forms and functions of social affect in Yasawan villages (Gervais & Fessler 2010; see Chapter 2). This research, employing methods from cognitive anthropology and social psychology, found that these terms pick out attitudes – salient, enduring, and functionally significant relationship evaluations – that moderate motives and social behaviors across situations. The present study evaluates the hypothesis that these attitudes function as "internal regulatory variables" (IRV; Tooby et al. 2008) that represent distinct relationship affordances (i.e., costs and benefits) and mediate social decisions to help, exploit, or spitefully harm others. This study tests for independent effects of multiple attitude dimensions, indirectly evaluating the more specific hypothesis that a single IRV, a "welfare tradeoff ratio" (Tooby et al. 2008), regulates self-other tradeoffs.

The data reported here are only a subset of the full data set generated from this study. I focus on 1) describing general patterns of decision making within and across the three games, 2) describing general patterns of target outcomes within and across the three games, 3) the reasons deciders give for their decisions in response to an open-ended query, 4) multivariate models explaining target outcomes in terms of their traits, states, and statuses, and 5) the role of

aggregate decider attitudes towards targets in mediating the impacts of these variables on target outcomes.

The results I report here can be summarized as follows:

1) Provided with a range of known targets, deciders act quite altruistically in the Allocation Game (AcG), unselfishly in the Taking Game (TkG), and yet spitefully in the Costly Reduction Game (CRG). 43% of deciders allocate themselves no money in the AcG, and yet 66% pay to reduce at least one other villager in the CRG.
2) Target outcomes vary widely within and across the games. Targets *to* whom others allocate tend not to be taken *from*, and targets who are taken from also tend to be reduced at a cost. Targets who receive allocations (AcG) or reductions (CRG) from many deciders also receive more large single allocations or reductions. Yet 96% of the men receive at least one allocation, and 87% are reduced at least once.
3) Decider explanations of their own behavior overwhelmingly emphasize relative resources among targets. Target need is the primary reason for allocating to targets, and avoiding taking from them, and comparatively high target income is the primary reason for taking from and reducing them.
4) The multivariate models converge with decider rationales in explaining target outcomes. Elderliness, a prime case of neediness, is the best predictor of receiving and not being taken from, while high Income is the best predictor of being reduced. However, Chiefliness also predicts receiving more and being taken from less, perhaps due to past generosity. The full five-factor multivariate models explain up to 66% of variation in target outcomes.

5) Aggregate attitudes towards targets have huge effects on target outcomes, raise the explained variance of the models as high as 74%, and mediate the effects of most target predictors. However, reduction as a function of target income occurs even controlling for attitudes towards targets, providing evidence of inequity aversion and effort toward economic leveling, even in this markedly hierarchical society.

The RICH economic games presented here clearly tap the RICH norms and motives that operate within enduring social relationships in a small-scale community. The results fit with existing ethnographic accounts of Fiji, but also reveal a surprising degree of leveling behavior given results from standard economic games in Yasawa (e.g., Henrich & Henrich 2006). This study provides the clearest evidence of a strong egalitarian ethos (Boehm 1999) in a richly hierarchical society, advancing debate about the universality of such motives (e.g., Dawes et al. 2007). The results with Chiefliness also support accounts of generosity that emphasize the returns that can be obtained from signaling of quality and investment in social capital (Hawkes 1993; Gintis et al. 2001). Finally, these data support an account of proximate relationship psychology that emphasizes interpersonal attitudes as these represent relationship value and adaptively moderate social behavior (see Chapters 1 & 2). They also suggest that multiple attitude dimensions (minimally, positive and negative) independently influence self-other tradeoffs (*sensu* Cacioppo et al. 1999 but *contra* Tooby et al. 2008). In generating novel comparative data, this study should be seen as the necessary first step in a larger comparative enterprise designed to describe and explain, ultimately and proximately, the patterning of social relationships as these structure and support human adaptation.

2. Methods

2.1. Sample

The core sample in this study is 54 indigenous Fijian males (*M* age 48, range 18-88) residing in one village on Yasawa Island, Fiji. 72 males were present in the village at some point during the study period (Sept 2011-June 2012) and participated in our demographic and physical measures interviews. Of these 72 men, 58 were present to participate in the Attitude ratings task (February – April) and were included in six months of time allocation sampling. 54 of these men were present at the start of the Allocation Game (May) and were included as Targets. 50 of these 54 remained available and participated as Deciders in all three games. 50 men were thus both Deciders and Targets in all three economic games, and four additional men were Targets but not Deciders. The 54 men included as Targets were representative of the starting 72 on all measured variables (e.g., demographics, reputation, attitudes towards), except that they had on average one less year of education. The sample of 54 men included members of all clans and households that were reliably present during the study period.

2.2. Demography

Basic demographic information, including age, birthplace, residence length in the village, household, clan membership, birth parents, education, income, and church congregation were gathered on all villagers (N = 266) from interviews with available heads of households (usually females) during the first full month of the study period (October 2011). All interviews were conducted in Standard Fijian mixed with conversational Yasawan, by a one of two trained, English-Standard Fijian bilingual, indigenous Fijian research assistants (RAs) accompanied by either MG or another US researcher. We performed follow-up interviews for clarification.

During this time we also inquired as to villager travel plans for the coming year so as to gauge availability of participants for the rest of the study. Several villagers arrived in the village in subsequent months, and they were interviewed for inclusion in the demographic database at their earliest convenience. We did separate follow-up interviews with each male head of household about his income and genealogy.

2.3. Physical Measures

Subsequent to the demographic interviews, we performed anthropometric interviews with all villagers. The bulk of these occurred during a several day stretch in which all villagers filed through the field lab house throughout the day. Each villager (including infants) was given FJD $2 for participation. We measured height (Seca 214 Portable Stadiometer), weight (Taylor 1130T Mechanical Scale), grip strength (Baseline Hydraulic Hand Dynamometer), chest compression strength (Lafayette Instrument Model 01163 Manual Muscle Test System), and blood pressure (Omron BP742 Automatic Blood Pressure Monitor). At this time we also gathered head shot photos of each villager using a digital SLR camera.

2.4. Time Allocation

All adult men present in the village at the completion of the physical measure interviews (N = 58) were included in six months of time allocation sampling (Jan-June 2012). MG took six instantaneous samples a day, six days a week (excluding Sunday), one within each of six time blocks: 06:30-09:00, 09:00-11:30, 11:30-14:00, 14:00-16:30, 16:30-19:00, and 19:00-21:30. Specific sample times within each block were randomly determined for each day. Each of the 58 participants was assigned 12 samples across the six months, two within each time block, and

sample orders within each time block across days were independently randomly sorted. A participant thus could be sampled more than once within the same day. During each sample, MG recorded the location of the focal participant, his activity, and with whom he was engaged in the activity. Activities were coded according to a modified version of the coding scheme used by Johnson (1975) and Henrich and Broesch (2011). In addition, all villagers in the demographic database were included in time allocation sampling conducted by the other four researchers present in the village during the study period (one other graduate student and three indigenous Fijian RAs). Each of these researchers conducted one time allocation sample a day, with a random villager (with replacement) at a random time (between 07:00 and 22:00). These samples included MG's core male sample and were added to the same database.

2.5. Reputation and Attitude Ratings

All adult men present in the village at the time of the Attitude rating task (N = 58) rated all 72 photographed men on how much Ego felt each of six attitudes towards the targets. These attitudes were included based on extensive study of the Yasawan affect lexicon (Gervais & Fessler 2010) and theoretical interest. Attitudes were rated in two sessions: the first included *lomani* ('love'), *dokai* ('respect'), and *sevaka* ('hate') in randomized order; the second included *taleitaki* ('like'), *beci* ('contempt'), and *rerevaki* ('fear of') in random order. Each interview session was about an hour long. As these attitude rating data were a primary motivator of, and predictor in, the relational economic games, failure to complete the attitude rating task was an exclusion criterion for participating in the games. Of the 58 men who completed the attitude rating tasks, 54 were present at the start of the games.

Additional randomly selected adult villagers participated in the Reputation rating tasks, rating all 72 photographed men on various traits. 38 villagers (20 men) rated all targets on two out of six traits: *lomasoli* (‘generosity’), *lomadina* (‘sincerity’), *vuku* (‘wisdom’), *makutu* (‘diligence’), *tovo vinaka* (“good behavior”), and *vakaturaga* (‘chiefliness’). Trait pairings were random and counterbalanced, except that theoretically similar traits (generosity/sincerity, wisdom/diligence, and good behavior/chiefliness) were never rated together. Each trait was rated by 12 or 13 villagers, roughly half female. An additional 13 randomly selected villagers (seven male) rated each of the men on *kaukauwa* (‘influence’, ‘strength’), *yalokatakata* (‘hotheadedness’), and *leqa nai lavo* (“money trouble”), presented in random order to each rater.

The Attitude rating and Reputation rating tasks both employed a “Likert Sort” rating protocol. For each trait or attitude, participants sorted target photos face down into six piles arranged as a Likert scale. From left to right these piles were labeled *sega* (“none”), *lailai sara* (“very little”), *lailai* (“little”), *so toka* (“some”), *levu* (“much”), and *levu sara* (“very much”). The piles were also labeled from 1 to 6 (the form of the data). The rated trait or attitude was printed clearly on an index card and placed above the center of the scale. Participants placed each photo face down into the pile designating the amount of the trait (e.g., “very much” generosity) they ascribed to the target, or the amount of the attitude (e.g., “some” respect) they felt towards him. Each trait/attitude was rated separately.

2.6. RICH Economic Games

The three games were run in order over seven weeks, each taking two weeks to complete. The Allocation Game was run first, then the Taking Game, then the Costly Reduction Game. We performed recruitment, and obtained informed consent, separately for each game, at the time of

each interview. Participant order was randomized within each game. Participants played each game in isolation, usually in their own homes with only MG and a research assistant (RA) present. Participants were paid FJD $2 at the time of participation in each game (FJD $1 = USD $.55), and told this money was separate from the game stakes. Each game had one day's wage at stake (FJD ~$20), either as potential earnings by the Decider, or as potential reduction of one Target. A participant's earnings across the three games – both as Decider, and as Target – were paid out in private in one lump at the end of the study. Participants left each game with only the participation payment in hand; no coins were distributed at the completion of any interview session. Earning distributions were never made public, and participants were assured that their decisions and earnings were confidential. We implored participants not to discuss the game or their decisions with others, describing this as a "rule" of the game. Each game was described as a *tavi* ("task").

Figures 3.01-3.03 present schematic diagrams of each game. For each game, Target photos were displayed in a 54-cell array composed of three 3x6-cell Paylak CTNB107 storage boxes with lid hinges notched for easy removal and replacement. Each cell held the head shot of one villager, cropped to a standard size and scale, and could hold all the relevant coins in each game. The order of the photos in the array was randomized on each day throughout the study, and the three boxes were shuffled for each interview. For the instruction phase of each game, we lined one of the box lids with a grid drawn on paper to the same scale as the box cells and used this to demonstrate possible distributions of coins across the cells without making reference to any specific Target. This is the "model grid" referred to in descriptions of the individual games.

2.6.1. Allocation Game (AcG)

In recruiting for the Allocation Game, we provided the following information:

> "We are interested in social behavior in Fiji and around the world. One way to study behavior is to give people the opportunity to make social decisions. We would like to ask you to participate in a study of social decision making. If you choose to participate, this will take 30 minutes, and we will give you F$2 for participating. In this task, you will be asked to distribute money among yourself and some other villagers. This is real money that we will provide, and people will really receive the money you allocate to them. Additionally, only we (two) will know how you decide to distribute the money, and we will not tell anyone how you play this game. Of course, you can choose not to participate for any reason. If you are interested, but you do not have time now, we can schedule this interview for later. If we start now and then you decide that you would like to stop for any reason, that is fine, we can stop whenever you want. Are you willing to participate?" *Keitou via kila nai tovo ni veimaliwai e Viti vata kei na vei yasai vuravura. . E dua na sala ni kena vulici nai tovo oya na kena soli vei ira na tamata e dua na gauna me ra cakava kina na nodra vakatulewa me baleta na nodra veiwekani. Keitou na via kerei iko moni vakaitavi ena I taviqito ni vakatulewa oqo. Kevaka o digitaka mo vakaitavi, ena taura tiko e 30 na miniti, ka keirau na solia vei iko e $2 ena nomu vakaitavi. E nai tavi oqo, e na kerei vei iko mo na wasea e so nai lavo vei iko kei ira e so tale na turaga. Oqo nai lavo dina keirau na vakarautaka, ka ra na taura dina na turaga nai lavo iko wasea vei ira. Kenai kuri, keirau ga na kila se ko wasea vakacava nai lavo, keirau na sega talega ni tukuna vei dua se ko qitora vakacava na qito oqo. Ia, iko rawa ni digia mo kakua ni vakaitavi ena dua beka na vuna. Kevaka iko taleitaka mo vakaitavi, ka sega na nomu gauna qo, keirau rawa ni tuvana tale e dua na nomu gauna galala. Kevaka tou sa tekivu ka qai o qai nanuma mo kakua ni vakaitavi ena dua beka na vuna, e donu vinaka, keirau na cegu ga na gauna o vinakata kina. Ko sa vakadonuya mo vakaitavi?*

When a participant consented, I laid out the game materials. The Allocation Game (Fig. 3.01) began with the decider's own photo randomly positioned among photos of 53 other men (Targets). The decider's own photo was pointed out in the array. Twenty $1 Fijian coins (*saqamoli*) sat in a small plastic cup outside the array. Deciders were instructed that in this *tavi* (task), they were to *wasea* (divide, distribute) the coins among themselves and the 53 other villagers in the array in any way they wanted. They were told that the money placed on a photo was the amount that person would actually receive after the game. They were shown a range of possible distributions using the model grid. First, they were shown a single cell containing one,

then two, then three, then twenty coins, and we explained the payoffs that each allocation would generate. Next, they were shown alternative distributions of all twenty coins: four coins in five cells; five coins in four cells; one, two, three, four, five, and five coins across six cells; one coin in ten cells, and two coins in five cells; and ten coins in one cell, nine coins in one cell, and one coin in another cell. We then described three rules: 1) only the men pictured could be allocated money; 2) no change could be made from the $1 coins to produce more than 20 units; and 3) participants were not to discuss the game or their decisions with other villagers. Participants were then given the 20 coins and made their distribution while MG and the RA sat with their backs to the participant. Participants were then asked a series of questions about their decisions and their perception of the game, and told that they would receive their shares at the end of the study. Specifically, they were asked the following questions in fixed order:

1) How did you decide to distribute the money as you did?
2) Why did you distribute the money to some men?
3) Why did you not want to give money to some other men?
4) Do you think others will make the same kinds of decisions as you?
5) How *should* [e dodonu me] someone distribute money in this task?
6) Did this task remind you of any of your life experiences? (or Fijian life? or village events?)

2.6.2. Taking Game (TkG)

Recruitment for the Taking Game included much of the same information as the AcG, but made reference to that first game:

> "We would like to ask you to participate in another study of social decision making. If you choose to participate, this will take 15 minutes, and we will give

you F$2 for participating. This task is different from the other task you did before. In this task, you will be given the opportunity to take money from the photographs of other villagers and keep it for yourself. This is real money that we will provide, and people will really receive the money that you do not take from them. Only we (two) will know what you decide to do with the money, and we will not tell anyone how you play this game." *Keitou na via kerei iko moni na vakaitavi ena dua tale nai taviqito ni vakatulewa oqo. Kevaka o digitaka mo vakaitavi, ena taura tiko e 15 na miniti, ka keirau na solia vei iko e $2 ena nomu vakaitavi. Nai tavi oqo e duidui mai na kena iko cakava e liu. Koya qo, e na soli vei iko na galala mo taura mai nai lavo vei ira na taba tiko ka mo maroroya sara me nomu. Oqo nai lavo dina keirau na solia, ka ra na taura na turaga nai lavo iko sega ni taura mai vei ira. Keirau ga na kila na cava iko cakava enai lavo, keirau na sega talega ni tukuna vei dua se ko qitora1 vakacava na qito oqo.*

When a participant consented, I laid out the game materials. The Taking Game (Fig. 3.02) began with eight $.05 FJD coins on each photo ($.40 per photo, $21.20 total), and the decider's own photo placed in an otherwise empty cup outside of the array. The cup was larger than the array cells to accommodate the max take of 424 Fijian nickels. A white card marked with an "X" held the assigned place of the decider's photo in the array, and was pointed out. Deciders were instructed that this second task was different from the first – this time, they could "taura" (take) any number of coins from any of the photos, "biuta" (put, leave) those coins in their own cup, and "maroroya" (keep) that money for themselves. They were also told that any money they did not take from a photo was the amount that person would receive from the game. Using the model grid and their own cup, we then demonstrated a number of examples. First, using a single cell, we explained the payoffs if they took none, one, two, three, four, or eight coins from one target. Then, we explained the payoffs were they to take one coin from each of six targets (they each earn $.35, Ego earns $.30, everyone else earns $.40), one coin from each of seven targets ($.35. $.35, $.40, respectively), one coin from each of eight targets ($.35. $.40, $.40, respectively), one coin from each of nine targets ($.35, $.45, $.40 respectively), and one

coin from every target ($2.65 for self, $.35 for everyone else). We then explained payoffs were they to take different amounts from different targets: one, two, three, four, five, six, seven, and eight coins from eight different targets (earning Ego $1.80), four from 10 targets and eight from 10 targets (earning Ego $6.00), two from 10 targets, four from 10 targets, six from 10 targets, and eight from 10 targets (earning Ego $10.00), and taking all coins from all 53 targets, earning Ego $21.20. We then explained two rules: 1) coins could not be redistributed across the photos, only taken or left; and 2) they were again not to discuss the game or their decisions with others. Participants made their decisions with MG and the RA turned away. Participants were then asked a series of questions about their decisions and their perception of the game, and told that they would receive their shares at the end of the study. We also asked participants if they had heard about the game before playing, and none reported having heard anything. We asked the following questions in fixed order:

1) How did you decide to distribute the money as you did?
2) Why did you take money from some of the men?
3) Why did you not take money from some of the men?
4) Do you think others will make the same choices as you?
5) What *should* [e dodonu me] someone do in this game?
6) Did this task remind you of anything you have experienced in your life? (or aspects of Fijian life? Or village events?)

2.6.3. Costly Reduction Game (CRG)

Recruitment for the Costly Reduction Game was similar to that for the other two games, but made reference to both of them:

> "We would like to ask you to participate in another study of social decision making. If you choose to participate, this will take 20 minutes, and we will give you F$2 for participating. This task is different from the other two tasks you did before. In this task, you will be given the opportunity to spend money that we (two) provide in order to reduce the amount of money others receive from the games you (all) have played. This is real money that we will provide, and we will really give you the money that you keep, and subtract money from others if you decide to reduce their earnings. Only we (two) will know what you decide, and we will not tell anyone how you play this game." *Keirau na via kerei iko mo na mai vakaitavi e na dua tale nai tavi ni vakatulewa. Ke o digitaka mo vakaitavi, ena taura tiko e 20 na miniti, ka keirau na solia vei iko e F$2 ena vuku ni nomu vakaitavi. Nai tavi qo e duidui mai na rua iko a cakava e liu. Koya qo, e na soli tale vei iko na galala mo vakayagataka nai lavo koya keirau solia mo vakalailaitaka nai lavo e na taura e so na turaga mai na rua na qito e ra sa qitora oti. Qo nai lavo dina keirau na solia, keirau na solia dina vei iko nai lavo iko na maroroya, ka musuka tani nai lavo mai vei ira na kena vo ke o vakatulewataka mo vakalailaitaka na ka e ra sa rawata. Keirau ga na kila na cava iko sa vakatulewataka, ka keirau na sega tale ni na tukuna vei dua se o qitora vakacava na qito oqo.*

When a participant consented, I laid out the game materials. The Costly Reduction Game (Fig. 3.03) began with ten $.50 coins in a small plastic cup containing the decider's own photo, and an "X" again holding the place of their photo in the randomized array. A second box lid (besides the model grid) was lined with paper marked with 10 circles, each of which held a red token identical in size to the $.50 coins and marked in black with "-2". Participants were instructed that this third and final task was different from the previous two. In this task, they would have a chance to *vakalailaitaka* ("reduce") other men's earnings from the three tasks by *vakayagataka* ("spending") the $.50 coins in their cup. Specifically, they could *maroroya* ("keep") and not spend any of ten $.50 coins (totaling up to $5 FJD) and this money would be theirs to keep. They could also *volia* ("buy") up to 10 red coins (*sede damudamu*), for one $.50 coin each, and use each red coin to reduce the earnings of one target by $2. Any red coin they bought would *sau* (cost) $.50 that they would not get to keep, and each target on which they

biuta (“left”) a red coin would receive $2 less (*musu mai vua e* $2) in earnings from the three tasks. We recounted the ways in which Targets could have earned money in the tasks: being given money in Game 1 (AcG); keeping money in Game 1 (AcG); being left money in Game 2 (TkG); taking money from others in Game 2 (TkG); and keeping money in this third game (CRG) instead of spending it. We then described some examples: if a man was going to earn $20 from the previous tasks, and Ego left one red coin on his photo, he would instead earn $18; if he were going to earn $7, he would instead earn $5; and if he were going to earn $3, he would instead earn $1. We then demonstrated additional examples using the model grid: buying one coin could reduce another target by $2 and leave Ego $4.50; buying two red coins could reduce two targets by $2 each and leave Ego $4; two coins could also reduce one target by $4 and leave Ego $4; three red coins would cost $1.50, reduce one target by $6, and leave Ego $3.50; five red coins would cost $2.50, reduce one target by $10, and leave Ego $2.50; and ten red coin would cost $5, reduce one target by $20, and leave Ego no money in this task. We also demonstrated leaving different numbers of red coins on different targets: one coin to reduce one target by $2, two to reduce a second target by $4, three to reduce a third target by $6, and four to reduce a fourth target by $8, using ten red coins and costing a total of $5, leaving none for Ego. We also described the different ways that a set number of coins could be used: were they to buy seven red coins, costing $3.50 and leaving themselves $1.50, they could reduce seven targets by $2 each, or two targets by $4 and three targets by $2, or one target by $8 and one by $6, or one target by $14 – any combination, their decision (*mo lewa ga*). We then described two rules: 1) to reduce a man’s earnings with a red coin, they had to spend a $.50 coin that we had provided, and they could no longer keep this money; and 2) they were again not to discuss the game or their decisions with others. Participants again made decisions with MG and the RA turned away. They

were then asked a series of questions about their decisions and their perception of the game, and told that they would receive their shares when everyone had finished this third task. We also asked participants if they had heard about the game before playing, and none reported having heard anything. They were asked the following questions in fixed order:

1) How did you decide to distribute (or not distribute) the red coins as you did?
2) Why did you place red coins on the men you did?
3) Why did you place different numbers of red coins on different men?
4) Do you think others will make the same choices you did?
5) What *should* [e dodonu me] someone do in this game?
6) Does this game remind you of anything you have experienced in life? (or aspects of Fijian life? Or village events?)

When all 50 men had participated in the three games, we calculated the final payoffs. Due to surprisingly high rates of reduction in the Costly Reduction Game, four men finished the three games with negative earnings. To help maintain confidentiality and good will, we elected to pay each of these men a whole dollar amount that was less than the smallest total earned by any other participant. Each man who had paid to reduce one of these four was reimbursed in proportion to the total of the target's reduction that was not applied (i.e. the difference between the target's negative earnings total and the whole dollar amount they were actually paid, over the total amount they were reduced in the third game).

Payments were made within a week of finishing the interviews. Payments were made in private, with earnings from the three games in a single envelope. At the time of payment, we also performed a memory check, asking participants to describe the three games they had played. All

participants were able to describe the games and mentioned the keywords *wasea* ("distribute") for the Allocation Game, *taura* ("take") for the Taking Game, and *musu* ("break", "reduce") for the Costly Reduction Game. We then asked participants to rate how much of two emotions they felt towards each other participant while playing the three games. The two emotions were *borisi* ('anger'), and *loloma* ('love, pity, compassion, concern'). The two emotions were rated in counterbalanced order using the Likert Sort rating task. That is, all target photos were sorted along a 6-point scale, from none to very much, according to how much of each emotion they had felt towards each target during the games.

3. Data Analysis

3.1. Game Summaries

Unless otherwise noted, all ± ranges are standard errors, and all correlations are Pearson's *r*. Spearman's test of rank correlations is also used for distributions with high skew or outliers.

3.2. Decision Rationale Coding

Open-ended responses to the first three questions for each game (relating to reasons for decisions; see Methods) were compiled and used to inductively generate coding categories. Recurring distinctions included aspects of self or target (e.g., need or character), relationship (e.g., quality, kinship), attitudes (e.g., love, respect), and general considerations (e.g., equality, fairness). Final categories, coded separately for both action and inaction (e.g., taking and not taking), included Ego need, Target need, Target character, Relationship quality, Kinship, Interpersonal feelings, Abstract values/rules, and two other categories, "My decision/desire" if that was the only reason mentioned, and "Other," for a handful of idiosyncratic, uninterpretable,

or uninformative answers (e.g, “Because I took money from them.”). Coding took the form of binary presence or absence of each code for each respondent, and allowed for the possibility of multiple codes per question per participant. Responses were coded by MG with reference to both the Fijian responses and English translations made by a bilingual Fijian research assistant (RA). A second rater was trained in the coding scheme through iterated coding of exemplars, and coded all English translations. MG and the RA then compared results and built consensus, using the agreed upon coding as the final data. Interrater reliability was calculated for each game, as the total number of “present” codes on which both raters agreed divided by the total number of “present” codes by either rater alone.

3.3. Data Reduction

3.3.1. Predictors

For modeling target outcomes, the covariates related to target character, status, and state were subjected to Principal Factors factor analysis with Varimax (orthogonal) rotation to maximize interpretability of results. However, similar factor structure emerged from Oblimin (oblique) rotation.

3.3.2. Mediators

For modeling the mediators of target outcomes, the six rated attitudes were also subjected to Principal Factors factor analysis with Varimax (orthogonal) rotation to maximize interpretability of results. However, similar factor structure emerged from Oblimin (oblique) rotation.

3.4. Multivariate Models

Target outcomes in the three games had variable distributions. The Taking Game produced a normal distribution of outcomes as indicated by a non-significant Skewness/Kurtosis Test for Normality (Stata 13), allowing for the use of Ordinary Least Squares (OLS) regressions. However, the Allocation Game and the Costly Reduction Game both produced count outcomes that were highly positively skewed (e.g., many received little, and few received much) to the point of being over-dispersed (i.e., the conditional variance is greater than the conditional mean). This rendered Negative Binomial (NB) regressions an appropriate test. NB regressions are similar to Poisson regressions but include a parameter for modeling over-dispersion. Note that NB regressions provide a z-statistic (coeff./SE), not a t-statistic as in OLS regressions. Also, NB regressions do not afford straightforward calculation of a standardized β coefficient. However, all regressions in this study employ standardized predictors, allowing comparison of effect sizes. Also note that the pseudo R^2 provided by an NB regression does not afford the same interpretation as an OLS R^2, and is often uninterpretable; I do not report pseudo R^2 values in what follows.

Target factor scores for each of the five factors from the data reduction procedure were used to predict target outcomes. For each game, a separate model selection procedure was employed to determine which combinations of the five factors most closely modeled the causal processes that created the outcome distributions. Akaike Information Criterion (AIC) scores were taken to indicate the models that most closely approximated those causal processes (Akaike 1973; Burnham & Anderson 2002).

The robustness of the model results were assured in several ways. First, bootstrapped standard errors with 500 iterations were used in all non-mediation regression analyses. Second,

analyses were rerun with several outliers removed, as identified by plotting residual squared versus leverage, and setting a threshold of a Cook's D greater than 1.

3.5. Mediation Models

Mediation of target outcomes by the two attitude factors was tested for in several ways. First, standard mediation analyses involved establishing the direct effects of IVs on DVs (i.e., trait factors on game outcomes), IVs on mediators (i.e., trait factors on attitude factors), and mediators on DVs (i.e., attitude factors on outcomes), then establishing a reduced direct effect of IVs on DVs when controlling for the mediators (Baron & Kenny 1986; MacKinnon et al. 2007). Second, Structural Equation Modeling (SEM) was used to estimate the direct, indirect, and total effects of the trait factors using the attitude factors as mediators. Six SEM models were run: two attitude-mediator models for each of the game outcomes. SEM was run in MPlus 7.0 for the AcG and CRG outcomes so as to handle the overdispersed distributions, while SEM for the TkG was run in Stata 12.0. I report only the indirect effects from the SEM analyses; direct effects from these analyses had the same coefficients as in the multivariate regression models but with less robust SEs for lack of bootstrapping.

4. Results

4.1. Decisions

4.1.1. Allocation Game

In the Allocation Game (N=51 deciders), the mean amount kept by Ego was 12.5% of the FJD $20 stake, or $2.49 ± $4.18 (Fig. 3.04). For the modal keep, 43% of the men kept nothing for themselves; 76% kept 10% ($2) or less. Only one individual kept all $20 for himself. On

average, deciders allocated money to 10.1 ± 5.4 recipients (Fig. 3.05), with a mean allocation to targets of $1.73 ± $1.09 (Fig. 3.06). The max allocation to one target was $10. Deciders allocated money to 19% of the possible targets. For comparison, 20 coins maximally distributed across 53 targets could have gone to 38% of them, while 17.5 coins (allowing for the mean keep of $2.49, or 2.5 coins kept) could have gone to 33% of possible targets.

4.1.2. Taking Game

In the Taking Game (N=50 deciders), the mean amount taken by deciders was 33% of the FJD $21.20 available, or $7.03 ± $7.20 (Fig. 3.07). For the modal take, 20% of the deciders took nothing for themselves; 12% took all available coins. On average, deciders took from 59% of the 53 targets, or 31.42 ± 20.93 (Fig. 3.08). Among those targets taken from, the mean amount taken was 52.6% (4.21 ± 2.61 coins out of 8, or FJD $0.21).

4.1.3. Costly Reduction Game

In the Costly Reduction Game (N=50 deciders), the mean amount spent to reduce targets was 45% of the FJD $5 stakes, or $2.26 ± $2.17 (Fig. 3.09). There were two modes: 34% of the deciders (17/50) spent none of the stakes and reduced no targets, while 32% (16/50) spent all $5 on reductions. The remaining 34% spent some fraction of the stakes to reduce others. In other words, 66% of the deciders spent some or all of the stakes to reduce others. On average, deciders reduced 7.5% of the 53 targets, or 3.96 ± 3.99 (Fig. 3.10). Among those targets reduced, the mean number of $.50 coins used on each was 1.13 ± 0.72. Of the 198 observed reductions, 184 (93%) involved one coin, nine (4.5%) involved two coins, and four (2%) involved three coins. One decider performed the max reduction by using all ten coins on one target (Fig. 3.11).

4.1.4. Decisions across Games

The total amount deciders kept for themselves in the AcG was significantly correlated both with the total amount they took from others in the TkG (r = .45, p =. 001) and the total amount they kept in the CRG (r = .36, p =. 01). However, the total amount deciders took from others in the TkG was not related to the total amount they kept in the CRG (r = .11, p >. 40). Qualitatively similar results follow from Spearman's rank correlations.

Across the three games, decider earnings varied widely (Fig. 3.12). The mean aggregate earnings from keeping in the AcG, taking in the TkG, and not spending in the CRG was FJD $12.31 ± $10.56. The maximum earned was $40.70. The minimum earned was $0 (N = 4), in which case each decider kept nothing (AcG), took nothing (TkG), and spent everything (CRG).

4.2. Target Outcomes

4.2.1. Allocation Game

In the Allocation Game (N=54 targets), 96% of the targets were allocated money by at least one decider. The mean amount targets received from all deciders was FJD $16.54 ± $22.71 (Fig. 3.13). The minimum received was $0, and the maximum was $104. Receipt was highly negatively skewed, such that the median receipt was only $7. On average, targets received allocations from 19% of the deciders, or 9.54 ± 10.38 (Fig. 3.14). The maximum number of allocations received was 41, from 80% of deciders. The number of allocations received, and the maximum size of a received allocation, were highly correlated (r = 0.72, p <. 0001).

4.2.2. Taking Game

In the Taking Game (N=54 targets), each target could have earned up to $20.00 from being left up to FJD $.40 by each decider. The mean amount targets had taken by all deciders was 33% of this, or $6.51 ± $1.06 (Fig. 3.15). The minimum amount taken was 19% ($3.85), while the maximum taken was 49% ($9.60). On average, targets were taken from by 59% of deciders, or 29.09 ± 4.80 (Fig. 3.16). The maximum number of takers was 36 (73%), while the minimum was 16 (32%), with the distribution negatively skewed. A target's number of takers, and the number of takes they lost of more than four coins (i.e., >50%), were highly correlated (r = .69, p <. 0001).

4.2.3. Costly Reduction Game

In the Costly Reduction Game (N=54 targets), 87% of targets were reduced by at least one decider. The mean amount targets were reduced by all deciders was FJD $8.30 ± $12.05 (Fig. 3.17). The minimum reduction was $0, while the maximum was $76. The modal reduction was one token (FJD $2). On average, targets were reduced by 8% of deciders, or 4.00 ± 4.21 (Fig. 3.18). The maximum number of deciders that reduced one target was 22 (44.9%). The number of deciders reducing a target, and the number of reductions they received of two tokens or more, were highly correlated (r = .83, p <. 0001).

4.2.4. Target Outcomes across Games

The total amount targets were allocated in the AcG was strongly negatively correlated with the total amount they were taken from in the TkG (r = -.79, p <. 0001), but only marginally negatively correlated with the total amount they were reduced in the CRG (r = -.23, p <. 09). The total amount targets were taken from in the TkG was strongly correlated with the amount they

were reduced in the CRG (r = .52, p = .0001). Qualitatively similar results follow from Spearman's rank correlations.

Across the three games, target outcomes varied widely (Fig. 3.19). The mean aggregate earned from being allocated to in the AcG, not taken from in the TkG, and not reduced in the CRG was FJD $21.73 ± $29.00. The maximum earned was $118.15. The minimum earned was -$63.60, in which case the target was reduced more than he was allocated (AcG) and left (TkG). Eight targets had negative earnings from being reduced more than they were allocated and left.

4.3. Deciders as Targets

50 deciders were also targets for the other 49 deciders in all three games. The amount deciders kept in the AcG was unrelated to how much they received in the AcG (r = -.10, p>.40), were taken from in the TkG (r = .03, p > .80), and were reduced in the CRG (r = -.15, p > .30). The amount deciders took in the TkG was also unrelated to their outcomes as targets (AcG: r = .19, p > .18; TkG: r = -.20, p > .15; CRG: r = .03, p > .80). In contrast, the amount deciders spent to reduce others in the CRG was positively correlated with the amount they received in the AcG (r = .26, p = .07), and negatively correlated with the amount they were taken from in the TkG (r = -.29, p < .05). The amount deciders spent to reduce others in the CRG was unrelated to the amount they themselves were reduced (r = -.09, p > .50).

Qualitatively similar results follow from Spearman's rank correlations, except in the case of CRG decisions. Using Spearman's rho (ρ), the amount deciders spent in the CRG was unrelated to the amount they received in the AcG (ρ = .20, p >.17), only marginally negatively correlated with the amount they were taken from in the TkG (ρ = -.24, p < .10), and yet

significantly negatively correlated with the amount they themselves were reduced in the CRG (ρ = -.37, $p < .01$).

4.3.1. Total Earnings

Aggregate participant outcomes from all game sources – keeping and receiving in the AcG, taking and being left in the TkG, and keeping and being reduced in the CRG – varied widely. The mean aggregate earned was FJD $33.13 ± $30.84. The maximum earned was $118.15, while the minimum earned was -$50.55. Four participants finished the games with negative aggregate earnings as a result of being reduced in the CRG more than they kept, took, received, and were left. We elected to pay each a whole dollar amount that was less than the smallest total earned by any other participant. Each man who had paid to reduce one of these four was reimbursed in proportion to the total of the target's reduction that was not applied. After reimbursement, and using the positive payout to the negative earners, the mean aggregate earned was FJD $34.73 ± $28.48. Note that all preceding analyses used pre-reimbursement totals.

4.4. Decision Rationales

Deciders gave a range of reasons for their allocation decisions, and the coding of these reasons proved reliable. Initial coding agreement between MG and a trained RA across the three games averaged 79%, with specific agreement levels of 88.1% (AcG), 76.7% (TkG), and 72.2% (CRG).

4.4.1. Allocation Game

Figure 3.20 presents the decision rationales given in the AcG. Target need was the overwhelming reason given for allocating coins to targets, with 92.2% of the deciders mentioning a target's "weakness" (*malumalumu*), old age, lack of income, financial troubles, many dependents, being a widower, general "problems" (*leqa*), or just wanting to "help" (*vukei*) them. The complement to this is that a *lack* of need was the overwhelming reason given for not allocating to targets, with 72.5% of the deciders mentioning a target's "strength" (*kaukauwa*), sources of income (such as owning a business or being able to fish for profit), or support from a large family. As other reasons for allocating, a number of deciders mentioned a target's goodness of character (25.5%), the goodness of their relationship (11.8%), good feelings towards them (11.8%), or their being related (7.8%). Two deciders (3.9%) mentioned an abstract value: doing the "right" (*dodonu*) thing. As other reasons for not allocating, five deciders (9.8%) mentioned their bad relationship with a target, and one decider (2%) mentioned their own need. Five out of the six "other" reasons were a decider mentioning that there were not enough coins to allocate to every target. One of these said they did not allocate money because it could not be distributed evenly.

4.4.2. Taking Game

Figure 3.21 presents the decision rationales given in the TkG. Target need was again the overwhelming reason invoked, although it was not mentioned as frequently as in the AcG. 44% of deciders mentioned a target's need (e.g., "weakness", old age, lack of income) as a reason for not taking from them, while 38% mentioned a target's having resources (e.g., "strength", youth, high income) as a reason for taking from them. Eight deciders (16%) mentioned an abstract value or rule as a reason for not taking, with seven of these referring to preserving the equal

distribution of the money at the start of the game (each target began with FJD $.40 on his photo). As other reasons for not taking, four deciders (8%) mentioned good feelings towards a target (e.g., respect, concern), and three (6%) mentioned their good relationship with a target (such as having been helped by them in the past). A decider's own lack of need (2%), the good character of a target (2%), and their relatedness to a target (2%) were each mentioned by one decider as reasons for not taking. As other reasons for taking, six deciders (12%) mentioned an abstract reason, with most of these referring to taking some set amount from all so as to preserve equality across them. Other reasons for taking included a decider's own need (8%), a target's bad character (6%), their bad relationship with a target (6%), or their lack of relatedness to a target (6%). No deciders mentioned bad feelings as a reason for taking. Seven deciders (14%) gave no reasons for their decisions, and simply stated it was their "decision" (vakatulewa).

4.4.3 Costly Reduction Game

Figure 3.22 presents the decision rationales given in the TkG. The most common reason given for reducing a target was the target's ample resources, with the same percentage of deciders (38%) mentioning this as did for taking in the TkG. However, only 6% of deciders mentioned a target's need as a reason for not reducing him. Other reasons for reducing in the CRG included a target's bad character (16%), and a bad relationship with a target (10%). One decider mentioned reducing cross-cousins (a joking relationship), while three (6%) mentioned abstract reasons, including wanting to "equalize" (vakatautauvatataki) earnings across participants. As reasons for not reducing targets, one decider mentioned their relatedness to a target, while twenty (40%) mentioned an abstract reason. Two of these made reference to not wanting targets to earn different amounts as a result of reduction, but most were referring to why

all of their reductions were of the same size – they did not want reduced targets to be reduced by different amounts. Four deciders (8%) gave no reason for their decisions other than "my decision". A number of the "other" reasons justified not reducing by saying it would reduce the earnings of others (restating the game contingency), while one decider mentioned wanting the money to "go back to where it came from," i.e. to MG.

4.5. Data Reduction

4.5.1. Predictors

Factor analysis of the target outcome predictors yielded five interpretable factors (Table 3.01). The first factor, explaining 56% of the variance among the predictors, included positive loadings for all of the character ratings except hotheadedness, including chiefliness (.93), generosity (.93), good behavior (.92), sincerity (.90), influence (.84), wisdom (.77), and diligence (.67), as well as a negative loading for "money trouble" (-.56). The second factor, explaining 23% of the variance, included positive loadings for age (.91) and rank within clan (.76), and a negative loading for grip strength (-.74). The third factor, explaining 9% of the variance, included only hotheadedness (.70). The fourth factor, also explaining 9% of the variance, included positive loadings for education (.64) and wisdom (.47), and a negative loading for "money trouble" (-.42). The fifth and final factor, explaining 6% of the variance, included a negative loading for "money trouble" (-.50), and a positive loading for income (.42). These factors are hereafter referred to, respectively, as Chiefliness (Factor 1), Elderliness (Factor 2), Hotheadedness (Factor 3), Education (Factor 4), and Income (Factor 5).

4.5.2. Mediators

Factor analysis of the hypothesized attitudinal mediators yielded two interpretable factors (Table 3.02). The first factor, explaining 74.7% of the variance among the attitudes, included positive loadings for love (.96), respect (.95), and liking (.90), and negative loadings for contempt (-.88) and hate (-.65). The second factor, explaining 27.7% of the variance, included positive loadings for fear (.85) and hate (.72). The first factor is hereafter referred to as Positive Attitudes, the second factor as Negative Attitudes.

4.6. Predictors of Target Outcomes

Table 3.03 presents the results of univariate regressions in which each of the five factors was separately used to predict Target outcomes in each of the three games. Table 3.04 presents the results of multivariate regression models in which all five factors were used simultaneously to predict Target outcomes in each of the three games. All standard errors were bootstrapped over 500 iterations.

4.6.1 Allocation Game

In univariate NB regressions (Table 3.03), Elderliness most strongly predicted receiving in the AcG, followed by the negative effects of Income and Hotheadedness. Education marginally predicted receiving less, and Chiefliness had an even weaker and less reliable effect in predicting receiving more.

In the multivariate analysis (Table 3.04), a model including all five predictors had the lowest AIC score. Controlling for each of the other factors, Elderliness again had a strong positive effect. Unlike in the univariate test, Chiefliness also had a significant positive effect on

receiving, while Education had a significant negative effect. The negative effects of both Hotheadedness and Income were rendered marginal in the multivariate model.

4.6.2 Taking Game

In univariate OLS regressions (Table 3.03), all five predictors had similarly sized significant effects. Chiefliness and Elderliness both predicted being taken from less, while Hotheadedness, Education, and Income each predicted being taken from more.

In the multivariate analysis (Table 3.04), the model including all five predictors had the lowest AIC score and an R^2 of .66. Controlling for each of the other factors, Chiefliness and Elderliness both predicted being taken from less, while Hotheadedness, Education, and Income each predicted being taken from more.

4.6.3. Costly Reduction Game

In univariate NB regressions (Table 3.03), Income had the strongest effect in predicting being reduced more. Education and Hotheadedness also significantly predicted being reduced. Elderliness only very marginally predicted being reduced less, while Chiefliness had no effect on reduction.

In the multivariate analysis (Table 3.04), the model including only Hotheadedness, Education, and Income had the lowest AIC score (317.18 vs. 319.62 for all five factors), because neither Chiefliness nor Elderliness affected being reduced. However, for comparison, I present the five-factor model, in which the effects of the other three variables are virtually the same as in the three-factor model. Controlling for each of the other factors, Income most strongly predicted

being reduced, while Education also significantly predicted reduction. The effect of Hotheadedness on being reduced was nullified compared to the univariate regression.

4.7. Attitudinal Mediation

4.7.1. Attitudes on Predictors

Table 3.05 presents the results of a multivariate OLS regression in which all five factors were simultaneously used to predict Positive Attitudes. Controlling for each of the other factors, Chiefliness and Elderliness both positively predicted Positive Attitudes, while Education had a small significant negative effect. Neither Income nor Hotheadedness had effects on Positive Attitudes. The R^2 of this model was .92.

Table 3.06 presents an analogous model of Negative Attitudes. Chiefliness had a marginally significant negative effect on Negative Attitudes, while Elderliness, Hotheadedness, Education, and Income all had significant positive effects on Negative Attitudes. The R^2 of this model was .63.

4.7.2. Allocation Game

4.7.2.1. Positive Attitudes

Table 3.07 presents the results of multivariate regression models in which all five factors and Positive Attitudes were used simultaneously to predict Target outcomes in each of the three games. These results approximate the direct effect estimates obtained from SEM (as is the case in all subsequent analyses). Added to the five-factor model of receiving, Positive Attitudes significantly predicted receiving, and substantially reduced the model's AIC score from 363.87 to 349.55. Controlling for Positive Attitudes altered the effects of most of the predictors. The

effect of Chiefliness was reversed, such that it predicted receiving less. The positive effect of Elderliness, and the negative effect of Education, were both nullified. The marginal negative effect of Hotheadedness was rendered significant. Income continued to have no effect.

Table 3.08 presents the SEM estimates of the indirect effects of each of the five factors on Target outcomes in each of the three games through their influence on Positive Attitudes. In the Allocation Game, Chiefliness and Elderliness each had significant positive indirect effects on receiving by increasing Positive Attitudes, while Education had a significant negative indirect effect by decreasing Positive Attitudes. Neither Hotheadedness nor Income had indirect effects through Positive Attitudes

4.7.2.2. Negative Attitudes

Table 3.09 presents the results of multivariate regression models in which all five factors and Negative Attitudes were used simultaneously to predict Target outcomes in each of the three games. Added to the five-factor model of receiving, Negative Attitudes had no effect on receiving, and slightly increased the model's AIC score from 363.87 to 365.01. The marginal negative effect of Hotheadedness was nullified, and the strong positive effect of Elderliness was weakened, yet remained strong. The positive effect of Chiefliness, and the negative effect of Education, remained significant. Income continued to have no effect.

Table 3.10 presents the SEM estimates of the indirect effects of each of the five factors on Target outcomes in each of the three games through their influence on Negative Attitudes. There were no indirect effects on receiving mediated by Negative Attitudes.

4.7.3. Taking Game

4.7.3.1. Positive Attitudes

Added to the five-factor model of being taken from, Positive Attitudes had a significant negative effect on being taken from (see Table 3.07), and substantially improved the model's R^2 value from .66 to .74, and AIC score from 111.53 to 99.77. Controlling for Positive Attitudes also altered the effects of several other variables. The negative effect of Chiefliness on being taken from was reversed and rendered marginally positive, while the negative effect of Elderliness was nullified. The positive effect of Education was weakened but remained significant. The positive effects of Hotheadedness and Income remained significant.

SEM largely reinforces these results (see Table 3.08). By increasing Positive Attitudes, Chiefliness and Elderliness both had significant negative indirect effects on being taking from, while Education had a significant positive indirect effect by decreasing Positive Attitudes. Neither Hotheadedness nor Income had indirect effects through Positive Attitudes.

4.7.3.2. Negative Attitudes

Added to the five-factor model of being taken from, Negative Attitudes had a significant positive effect on being taken from (see Table 3.09), and improved the model's R^2 value to .71, and AIC score to 105.48, although neither as much as did Positive Attitudes (.74 and 99.77, respectively). Controlling for Negative Attitudes also altered the effects of several of the other variables. The positive effect of Hotheadedness was rendered marginal, while the negative effect of Elderliness was strengthened. The negative effect of Chiefliness, and the positive effects of Education and Income, were each slightly weakened but remained significant.

SEM largely reinforces these results (see Table 3.10). By increasing Negative Attitudes, Elderliness, Hotheadedness, Education, and Income each had a positive indirect effect on being taken from. Chiefliness had a marginal negative indirect effect by reducing Negative Attitudes.

4.7.4. Costly Reduction Game

4.7.4.1. Positive Attitudes

Added to the five-factor model of being reduced, Positive Attitudes had a strong negative effect on being reduced (see Table 3.07), and improved the model's AIC score from 319.62 to 316.10. Controlling for Positive Attitudes also altered the effects of several of the other variables. Both Chiefliness and Elderliness became significant positive predictors of being reduced. The positive effect of Income was strengthened, while the positive effect of Education on reduction was slightly weakened but remained significant. Hotheadedness became a marginal predictor of being reduced.

SEM largely reinforces these results (see Table 3.08). By increasing Positive Attitudes, both Chiefliness and Elderliness had significant negative indirect effects on being reduced. By decreasing Positive Attitudes, Education had a significant positive indirect effect on reduction. Neither Income nor Hotheadedness had indirect effects on being reduced through Positive Attitudes.

4.7.4.2. Negative Attitudes

Added to the five-factor model of being reduced, Negative Attitudes positively predicted being reduced (see Table 3.09) and lowered the model's AIC score from 319.62 to 316.10, about as much as did Positive Attitudes. Controlling for Negative Attitudes, Education became only a

marginal predictor of being reduced, and the once marginal positive effect of Hotheadedness was nullified. The positive effect of Income on being reduced was weakened but remained significant. The trending direction of Elderliness reversed, although it remained insignificant. Chiefliness continued to have no effect.

SEM largely reinforces these results (see Table 3.10). By increasing Negative Attitudes, both Elderliness and Hotheadedness had significant positive indirect effects on being reduced, while both Education and Income had only marginal positive indirect effects. Chiefliness did not have an indirect effect through Negative attitudes.

5. Discussion

5.1. Allocation Game

In the Allocation Game, essentially an *N*-recipient Dictator Game (DG), deciders behaved quite altruistically, with many allocating themselves nothing, and most keeping only a small fraction of the total stakes. A previous study of the anonymous and dyadic DG run in neighboring villages on Yasawa Island (Henrich & Henrich 2006) used comparable stakes and found much less altruism – the mean offer was only 35%, while Yasawan deciders in the AcG offered 87.5% of the stakes. The 76% of participants who allocated 90% or more of the stakes in the AcG have no analogue in the Yasawan anonymous-target DG.

What explains this difference? Like the standard DG, the AcG includes decider anonymity, which removes explicit strategic considerations related to reputation effects and the expectations of others (such as for reciprocity of past behaviors). However, the Allocation Game is different from the DG in two important ways – target identities are known, and there is more than one recipient. Previous studies suggest that having multiple recipients increases the amount

allocated to each (Engel 2011). It could be that deciders view the AcG as a multi-recipient DG in which fairness is determined by the amount Ego keeps relative to each of the other recipients. Giving away 90% of the stakes could be consistent with an equal split across Ego and nine recipients, similar to the modal offer in the Yasawan DG of 50%, made by >40% of deciders. This would predict a modal pattern in the AcG in which Ego keeps the same amount as all other recipients, regardless of the size of the allocation (e.g., one coin to Ego and each of 19 other men, or two coins to Ego and nine others, or four coins to Ego and four others, etc.). Figure 3.23 presents relative keep as the amount Ego kept relative to all other recipients. These data show that only 22% of deciders in the AcG kept the same as they gave to all other recipients. 51% of Deciders kept less than some or all recipients (43% keeping nothing), while 27% kept as much or more than the most they gave to any other recipient. Looked at this way, Deciders in the AcG are indeed quite generous, with more than 50% keeping less than they gave some other recipient. In contrast, only slightly more than 5% of deciders in the Yasawan DG kept less than half of the stakes.

The explanation for heightened altruism in the AcG likely inheres in the impact of target identities on decision making. In the standard DG, participants do not know to whom they are transferring money, and as a result must fall back on assumptions about possible targets, or a default norm used in interactions with anonymous strangers (Henrich et al., 2010). In contrast, in the AcG, deciders can utilize all information associated with pictured targets, including endogenous dyadic attitudes towards them, and norms associated with their states, statuses, and relationship to the decider.

In anonymous-target DGs, a norm of equality – leading to an offer of half – predominates in small-scale societies (Engel 2011), Yasawa included, although is not common in student

populations (Camerer 2003). In contrast, with full target identities at their disposal, many Yasawan deciders allocated money in the AcG according to asymmetric need. This was evident in both the open-ended explanations given by deciders, and the multivariate models involving continuous measures of target traits. Over 90% of deciders invoked target need as a reason for allocating to them, and over 70% invoked a lack of need to explain not allocating to a target (Fig. 3.20). Many deciders simultaneously mentioned old age, weakness, low income, and low access to wage labor in their explanations. In the multivariate model (Table 3.04), Elderliness – integrating target age and inverse physical strength – was by far the strongest predictor of receiving, while target Education and Income, as negative predictors, independently contributed to the best model of receiving.

Need-based helping fits with two ethnographically salient aspects of Yasawan life. One is the Christian discourses that pervade daily life in a Yasawan village and which emphasize compassion, helping, forgiveness, and community (Brison 2007). The second is the traditional system of need-based requests (*kerekere*) that operates among individuals, households and clans in a Fijian village (Sahlins 1962). Individuals or social units can *kerekere* others for virtually anything – food, labor, money, land – on the condition that the initiator is in demonstrable need, and the potential donor has enough to share. Every recipient is obliged to share when they are themselves the target of a *kerekere*, yet a transfer requires no short-term reciprocity or account keeping, and often the flow of goods carries a net imbalance that follows persistent need (a system that maps closely onto Communal Sharing in Relational Models Theory [RMT]; Fiske 1991). Being a generous provider is also a sure path to prestige and influence. The traditional economic role of the Chief was to dispense village resources according to need – for example, from his communally planted garden – and chiefliness (*vakaturaga*), or village-oriented

generosity suffused with *noblesse oblige*, is a necessary condition for installation as a chief, with noble "blood" being insufficient (a system that maps onto Authority Ranking in RMT; Fiske ibid.). Generosity is integral to the "Fijian way of life" (*na bula vakaviti*), and failure to participate in the *kerekere* system results in reputation damage and likely less support from others. Of note, a number of deciders mapped the AcG onto "the Fijian way of life", as well as specific acts such as sharing a fish catch and helping others with school fees.

In line with Chiefliness being a pathway to prestige and social support, Chiefliness significantly predicted receiving in the AcG. This factor was a composite of community-rated "chiefliness," "good behavior," generosity, sincerity, influence/strength, wisdom, diligence, and *low* money trouble (see Table 3.01) – all Fijian ideals embodied in an able and generous Chief. Interestingly, Chiefliness is incompatible with need, requiring a different explanation than allocations based on Elderliness. Given that decider identity would be unknown to a receiving target, strict reciprocity or debt payoff seems unlikely. One plausible hypothesis is that a form of mutualistic cooperation was at work. Around a quarter of deciders mentioned a participant's good character (including general generosity) as a reason for allocating to him, while 12% mentioned relationship quality, including having been helped by a target in the past. Another 10% mentioned poor relationship quality as a reason for not allocating to a target. It is plausible that Chiefly targets were being allocated to in order to facilitate their ability to benefit deciders in the future (Hawkes 1993; Tooby & Cosmides 1996; Baumard et al. 2013).

Of course, intraspecific mutualism is an ultimate explanation. Proximately, Positive Attitudes are hypothesized to track and represent the positive relationship value of others, including those who produce positive externalities, and to motivate the conferral of benefits, and the mitigation of harm, to them. This hypothesis is consistent with the role of Positive Attitudes

in mediating receiving in the AcG. A Positive Attitudes factor composed of Love (*lomani*), Respect (*dokai*), Liking (*taleitaka*), and reversed Contempt (*beci*) and Hate (*sevaki*) (Table 3.02) fully mediated the effects of Elderliness and Chiefliness on receiving more, as well as the effect of Education on receiving less. Positive Attitudes had a huge effect on receiving (Table 3.07), and when controlling for them, none of the other factors predicted receiving. Chiefly generosity and general community orientation – which benefits other villagers – is precisely the kind of behavior expected to raise such valuation. Elderliness of the Fijian variety should also raise positive valuation – such individuals are important sources of leadership and moral bearing within a Fijian village, and play valued roles within traditional ceremonies. In contrast, Education is associated with the kinds of trade-offs expected to undercut positive valuation in a Fijian village. Education entails spending much time away from the village investing in one's own resources and not the community, while not participating in the various collective actions and rituals that cue interdependence and coordination capacity (hypothetically important bases of other-valuation). Engendering Positive Attitudes appears to be essential to receiving in the AcG.

Controlling for Positive Attitudes also illuminates a difference between Elderliness and Chiefliness. Controlling for Positive Attitudes, Elderliness has no effect on receiving, yet Chiefliness actually predicts receiving less. This is not surprising – in the absence of the Positive Attitudes elicited by Chiefly behavior, such individuals are simply men with resources, and are given less on that account. In contrast, Elderliness is not associated with material resources or their distribution, and controlling for Positive Attitudes leaves Elderliness with no effect on receiving.

It may be significant that Negative Attitudes – a factor composed of "hate" and "fear" (sevaki) – had no direct or mediating effect on receiving in the AcG. Negative Attitudes are

hypothesized as a separate dimension from Positive Attitudes that allows for both indifference and ambivalence in the interaction of the two (Cacioppo et al. 1999). The Negative Attitudes representation tracks the costs associated with particular relationships and endogenously motivates the withdrawal of benefits and the conferral of harm, at least when the target cannot impose countervailing coercive costs. Refraining from allocating to someone under secretive conditions should follow from Negative Attitudes, yet the multivariate model suggests it does not. One possible reason for this is that need was the primary driver of allocation decisions, and a lack of need is not clearly related to Negative Attitudes. While both Income and Education positively predict Negative Attitudes (Table 3.06), Chiefliness is associated with resources and yet marginally reduced Negative Attitudes, while Elderliness is associated with few resources and yet quite elevated Negative Attitudes (Elderliness is the only ambivalent factor). A different explanation implicates a methodological artifact of the AcG: given the stakes, there were many more possible recipients than could actually receive (max 20/53), meaning that many who did not receive likely were not viewed with Negative Attitudes. Instead, Positive Attitudes towards receivers drove the effects. To appreciate the functional role of Negative Attitudes in social decision making, we need to turn to games that are sensitive to active harm.

5.2. Taking Game

Just as deciders in the AcG were generous relative to previous studies of the anonymous DG in Yasawa (Henrich & Henrich 2006), deciders in the TkG were restrained relative to comparable studies. For example, a similar design run among the Tsimane of lowland Bolivia (Rucas et al. 2010) found that Tsimane women took on average 75% of valued beads from other women. Men in Yasawa took only 33% of coins from other men. This difference is stark, but

there are a number of explanations that the present study cannot disentangle, including culture, gender, and currency. Future studies of taking from known targets should explore these sources of variation (see also List 2007 & Bardsley 2008 for studies of taking from anonymous targets when the choice set is to give or take).

The results of the TkG were essentially the mirror image of the AcG, as giving is to taking. Among deciders, those who kept more in the AcG took more from others in the TkG. Target outcomes in the two games were highly negatively correlated, such that those who received in the AcG were not taken from in the TkG, and those who were taken from in the TkG were given to less in the AcG. Decider rationales in the two games were also consistent. Target need was the overwhelming explanation for refraining from taking from targets, while a target's ample resources were used to explain why they were taken from (Fig. 3.21).

The multivariate regression results from the TkG (Table 3.04) also accord with the AcG and with decider rationales emphasizing target need. Overall, the five-factor model explained 66% of the variance in target outcomes, a respectable figure that unfortunately cannot be compared to the NB regression results of the other two games. Elderliness had the strongest target effect, significantly buffering against being taken from, while both Education and Income predicted being taken from more. Hotheadedness also predicted being taken from more, although it is orthogonal to resources; perhaps, deciders saw an opportunity within the secrecy of the TkG to exploit those who are prone to cost imposition. Consonant with its positive effect in the AcG, Chiefliness also buffered against being taken from in the TkG. This result is somewhat surprising given the traditional economic role of Chiefs as hubs of redistribution who are often the targets of *kerekere* requests (Sahlins 1962). Chiefliness presupposes ample resources, yet it did not predict being taken from.

The analyses of attitudinal mediation illuminate these effects. The multivariate model incorporating Positive Attitudes improved the explanatory power of the model to 74%, and reduced the AIC score substantially. Controlling for Positive Attitudes did reveal a marginal positive effect of Chiefliness on being taken from, which is what we would expect from the role of Chiefliness in local Fijian economics. In addition, controlling for the *reduced* Positive Attitudes associated with Education reduced its effect on taking. Evidently, Positive Attitudes buffer against resource exploitation, and removing their effects render Chiefliness and Education similar sources of taking. In contrast, controlling for Positive Attitudes left Elderliness with no effect on taking, distinguishing this variable from Chiefliness in a manner parallel to the AcG.

Given that Elders want for resources, it is perhaps surprising that they were still not taken from less even controlling for Positive Attitudes. It turns out that Negative Attitudes mediated a significant indirect effect of Elderliness on being taken from, and when controlling for Negative Attitudes the buffering effect of Elderliness on taking was strengthened. This indicates that the overall negative effect of Elderliness on taking reflects the confluence of three forces: a strong buffering effect of Positive Attitudes, a taking effect of Negative Attitudes, and an inequity aversion effect of their low resources that balances out the effect of Negative Attitudes. Negative Attitudes arguably track the costs associated with other villagers, and such Negative Attitudes motivate cost imposition. Elderliness is likely associated with such costs – elders place great constraint on action within a village, can coerce the actions of others (including through threat of supernatural sanction), and can also coordinate material punishment, in addition to being economically dependent. Negative Attitudes also fully mediated the effect on taking of Hotheadedness, which is likely associated with past cost imposition (Sell et al. 2009). Together these results suggest that Negative Attitudes expose a target to exploitation irrespective of

relative resources. They also suggest that positive and negative attitudes vary independently and have independent effects on self-other tradeoffs, a finding inconsistent with the hypothesis that a single summary variable regulates helping and harming others (a "welfare tradeoff ratio;" Tooby et al. 2008)

Of note, the positive effect on taking of Chiefliness when controlling for Positive Attitudes cannot be attributed to Negative Attitudes – there was no indirect effect of Chiefliness on taking mediated by Negative Attitudes. Similarly, Income continued to have a negative direct effect on taking after controlling for Negative Attitudes, even in the absence of any indirect effect through reduced Positive Attitudes. In other words, both Chiefliness and Income predict taking independently of Negative Attitudes, providing evidence of cold leveling. However, in the TkG the motivational origin of such leveling is unclear, since money taken from targets goes to self, and participants could be opportunistically exploiting those for whom the marginal costs are smallest. In contrast, cold leveling in the CRG – in which reducing another is at a cost to oneself – would provide stronger evidence of inequity aversion (*sensu* Fehr & Schmidt 1999).

5.3. Costly Reduction Game

Yasawan men were surprisingly willing to spitefully reduce the earnings of other villagers in the CRG, especially in light of previous studies of costly punishment in Yasawa (Henrich & Henrich 2006). In a standard Ultimatum Game (UG), only 29% of Yasawan participants reject an offer of $0, while in a Third-Party Punishment Game (TPP), only 33% of third parties spend to punish an offer of $0. In contrast, in the CRG, a full 66% of deciders spent at least some of the stakes to reduce one or more targets. One decider spent the entire pot to reduce a single target, while ten men (20% of the sample) reduced the maximum of ten targets.

This was despite the absence of any norm violation endogenous to the game. Instead, deciders were using target identities to condition their reductions, including potentially any aspects of target state, character, relationship to the decider, or past behavior towards the decider or others.

It could be that the rates of reduction in the CRG reflect the confluence of second- and third-party punishment, and approximate the conjunction of rejection rates for low UG offers and punishment of low TPP offers. Reasons related to both second party (relationship quality) and third party (some cases of target character) punishment were given for reduction. However, to approach a rate of 66% from UG and TPP rates of punishing would require that different individuals in the population engage in these two behaviors, and Yasawan UG and TPP data do not allow this inference since deciders did not play both games (Henrich & Henrich 2006).

More likely, Yasawan rates of punishment in the anonymous-target UG and TPP are actually low relative to the CRG and reflect uncertainty regarding whether the instigating acts – a low UG offer and a low TPP offer – are actually norm violations. Across societies norm violations are conditioned on the relationship and relative states of the involved parties (Edgerton 1985; Rai & Fiske 2011). For example, offers and rates of rejection are both lower in a UG when they are framed as meritocratic inequality (Fiddick & Cummins 2007). In Fiji, legitimate status differences are pervasive, and unequal distributions of mundane and sacred resources are routinely conditioned on age, rank, and clan (Sahlins 1962). It may be that second- and third-parties infer a relationship and its proprietary expectations *from* behavior, instead of imposing generalized norms on observed behavior. In addition, as the AcG and TkG results demonstrate, Yasawans readily initiate unequal treatment of other villagers in the name of facilitating equality. Yet in an anonymous-target UG or TPP, it is also unclear whether the proposer or the receiver is in greater need. UG and TPP behaviors are likely viewed within the economic context of the

villages from which anonymous partners are selected, yet potential punishers do not know how proposer decisions are influencing relative equality. Relative need may be inferred, instead of equality assumed.

Deciders reduced targets for many reasons, including the target's character ("always think of themselves"; "they never give much"), the unpaid debts of targets towards the decider, and their "bad" relationship state. One decider spoke of teaching his selected targets a lesson ("me vaka nai vakamacala"). Most frequently, however – 38% of the time – deciders spoke of reducing targets that had high income (Figure 3.22). Sometimes this was accompanied by character judgments such as calling the target a "money head" (ulu sede), but more often deciders referred simply to the fact that the target was running a business (vakacici bisinisi), or was a wealthy man (turaga vakailavo). Several deciders provided specific leveling motives. For example, one man said, "I want to equalize (vakatautauvatataki) what we earn by putting red coins on those who earn much." An egalitarian motive is underscored by the large number of deciders who spoke of reducing all targets by the same amount so as not to reduce them unequally (coded in Figure 3.22 as Abstract reasons for not reducing). Somewhat ambiguously, a number of deciders mapped the CRG onto "competition" in the village.

The multivariate model of target outcomes supports such leveling motives (Table 3.04). Income was the strongest predictor of being reduced. Education, which is also associated with low money trouble (Table 3.01), was the only other significant predictor of being reduced. Both of these factors are associated with relative wealth. However, controlling for Positive Attitudes, both Chiefliness and Elderliness also predicted being reduced in the CRG. For Elderliness, this reduction can be explained as the result of residual Negative Attitudes – Elderliness predicts being viewed ambivalently, and there is a significant indirect effect of Elderliness on being

reduced that is mediated by Negative Attitudes. Negative Attitudes also mediated a significant indirect effect of Hotheadedness on being reduced – demonstrating that Negative Attitudes not only open one up to exploitation, but also motivate active spite under private conditions. It is worth noting that this aspect of the CRG potentially captures an observed dynamic of naturalistic punishment in a Fijian village. Punishment can result from the confluence of 1) the loss of standing of the norm violator, and 2) the enactment of cost imposition by unharmed parties who are nonetheless motivated by past grudges but who are not subject to second-order punishment due to the low standing of the punished party (Henrich & Henrich 2006). The secrecy of the CRG allows past grudges to be enacted without costs. In a somewhat different rendering, Sahlins (1962) emphasizes the punitive role of direct second party retribution that is excused except insofar as the conflict disrupts wider village affairs, in which case the Chief intervenes. However, such retribution was discouraged in the village where these games were played, to the point where a police report was filed against second-party punishers following a theft.

Unlike with Elderliness, the direct effect of Chiefliness on being reduced when controlling for Positive Attitudes cannot be attributed to Negative Attitudes. Chiefliness is associated with marginally lower Negative Attitudes, and there is no indirect effect of Chiefliness on reduction through Negative Attitudes. In other words, as in the AcG (in which Chiefliness residually predicts receiving less) and the TkG (in which Chiefliness residually predicts being taken from more), the reduction associated with Chiefliness when controlling for Positive Attitudes is not attitudinally mediated. It takes the form of cold yet costly resource leveling. Such effects resemble those for Income, which strongly predicts costly reduction even controlling for Negative Attitudes.

Costly leveling of targets even when they are not viewed with Negative Attitudes provides compelling evidence of inequity aversion that is not motivated by direct benefits to self (as might be the case in the TkG). Leveling in the CRG was efficient (at four times the cost), and reduction effected relative gain (the target lost more than the decider), but it was nonetheless costly to the decider. These data fit with recent experimental laboratory evidence of costly punishment in the name of egalitarian motives (Dawes et al., 2007; Raihani & McAuliffe 2012; cf. Falk et al. 2005), and the ethnographic literature on egalitarianism that emphasizes leveling in small-scale societies, especially hunter-gatherers (Cashdan 1980; Boehm 1999). It may also provide support for one or more models of inequity aversion (e.g., Fehr & Schmidt 1999; Bolton & Ockenfels 2000). Aside from being, to my knowledge, the first pseudo-experimental demonstration of leveling in a small-scale society, these data make two additional contributions. One is that a Fijian village is not a hunter-gatherer band, and there are legitimate inherited (e.g., ranked clans) and achieved (e.g., the church hierarchy) statuses that go unpunished in daily life, and indeed are saliently marked in all manner of valued interaction and ceremony (from *kerekere* requests, to kava drinking, to funerary rights). To find such a clear signal of egalitarianism in a hierarchical quasi-chiefdom is significant for its suggestion of a universal motive to egalitarianism (Boehm 1999; see also Fiske 1990). It should be noted, however, that leveling in this study appears largely monetary and driven by income inequality, a relatively new and controversial source of inequality in this village, and not the traditional currencies of wealth and status such as clan membership, ascribed influence, or ritual privilege. However, that Elderliness and Chiefliness predict reduction when controlling for Positive Attitudes speaks against this, and suggests that unequal influence in the village may be opposed when a low-cost opportunity arises.

Second, the result that leveling of Income, Education, and Chiefliness occurs independent of Negative Attitudes stands in contrast with other studies in which leveling is mediated by relational emotions. For example, Dawes et al. (2007) found that inequality in a "random income game" predicted annoyance and anger towards top earners, and those most endorsing such emotions were more likely to pay to reduce the earnings of those at the top, and to increase the earnings of those at the bottom. However, that analysis is different from the current analysis in important ways. Most notably, it focuses on individual differences in motives and leveling behavior, whereas the current analysis focuses on aggregate outcomes of attitudes towards targets. Future analyses of decider behavior will more directly compare the present results to those of Dawes et al.

5.4. Limitations and Future Directions

I should note a number of limitations of this study. One concerns the all-male sample. The sample was thus restricted for practical reasons. The scope of the study allowed only for an *N* of around 50, and I included the entire available social network of one gender, specifically the one to which I had greater access for interviews, time allocation sampling, and participant observation. In such a highly gendered society, men and women might be expected to behave differently in these games and towards members of the opposite sex, and including half men and half women would have made the sample noisier and the effective social network less complete. Focusing on the female social network (as in Rucas et al. 2010), and expanding the sample to study the dynamics of intersexual relationships, are necessary and interesting directions for future research.

Additionally, this study employed real Fiji coins as the currency being allocated, taken, and reduced. It is possible that the use of money foregrounds particular norms and behaviors and thereby limits the external validity of the present results beyond economic transactions in the village. However, several lines of evidence argue against this. First, currency manipulations have not been systematically studied (see Blake & Rand 2010), but currencies other than money have not clearly influence behavior in other experiments (e.g., Alvard 2004; Lamba & Mace 2011). Second, the participants themselves freely mapped the AcG onto more general norms of generosity and division of non-monetary resources such as a fish catch. Future studies with different currencies can explore the effect framing effects of other currencies and the generalizability of the present results.

One limitation of the data gathering procedure in this study is that the attitude data are self-report, and may themselves simply reflect *norms* for relationship valuation, not endogenous evaluations themselves. Such norms are prominent in a Fijian village, both in everyday discourse about kinship and respect for elders and chiefs, and also in church sermons emphasizing love, compassion, and forgiveness. However, effort was made to render attitude ratings private, such as having the photos sorted face down. Moreover, public discourse discourages socially corrosive feelings such as hate and contempt, and yet most participants were quite willing to report such attitudes and provided variable ratings across targets. It is also important to recognize that norms and sentiments cannot be easily distinguished when norms involve more than talk. In a Fijian village, communalism and hierarchy are both richly manifested and enacted in everyday interaction and in common ceremonies and rituals. Toren (1990; see also Spencer 1938; Sahlins 1962) has described in detail the many ways that Fijian relationships, both intra- and intersexual, are structured by embodied and iconic etiquette. For example, kava is served from a single large

bowl and consumed from a rotating cup, while elders, chiefs, pastors, and other high ranking visitors are served first, and sit "higher" in the room facing "downwards." Both status and sharing are similarly marked at everyday meals and occasional ceremonies. An appropriate *kerekere* request is attended by an ethological display of stooping, averted gaze, hushed voice, and local signs of respect (such as hollow clapping, or *cobo*) conspicuously similar to shame (Fessler 1999; Tracy & Matsumoto 2008) that emphasizes the relatively low standing of the requestor and the high standing of the potential giver. Kinship norms also prescribe joking and frequent physical contact among cross-cousins, avoidance among parallel cousins, and deferential language and comportment by a man when interacting with older brothers, fathers, father's brothers, and elders. Such behaviors both reflect and engender endogenous sentiments and thereby constitute relationships (Fiske 1991, 2004). This adds two levels to future comparative inquiry: research should address the role of everyday behaviors in structuring sentiments, and the role of cultural evolutionary processes in favoring some interaction norms for the sentiments they engender (e.g., Atkinson & Whitehouse 2011).

The data analyses presented here were also limited in several ways. I focused on target outcomes as a function of individual differences in status, reputation, and imputed relative income. Such analyses are important for understanding the aggregate social outcomes for individuals of certain attributed traits and behaviors, and such analyses are impossible with data from games with anonymous targets. However, more powerful analyses will come from the dyadic data, for which the data set will go from 50 deciders and 54 targets to 1431 dyads and 2650 directional decisions in each game. Dyadic analyses can be used to look at the effects of pairwise differences in reputation, age, education, and income, in addition to intrinsically dyadic variables such as relatedness, kinship, and association rates in the time allocation data. Dyadic

analyses will also afford exploration of how decisions in the different games, and distinct attitude ratings, correlate within dyads, and whether any measure of reciprocity characterizes dyads. A preliminary exploration of this data provides no evidence of reciprocity (i.e., A giving to B is not correlated with B giving to A), but A allocating to B in the AcG predicts B *taking* from A in the TkG – evidence of consensually agreed upon, asymmetrical flows of resources within dyads, and additional evidence of egalitarian redistribution in the village. Preliminary modeling of individual differences in decisions tells a similar story: decider Income predicts keeping less in the AcG, suggesting that deciders are sensitive to their relative resources and distribute the stakes away from themselves according to need. Such analyses are ongoing.

Perhaps the greatest limitation of the analyses presented here is the use of factor scores as predictors and mediators. This is justifiable for the five predictor factors, as they are easily interpretable, and combining different measures reduces the measurement error in each one. For example, Income was composed largely of high monthly income and low "money trouble" as rated by other villagers. Each of these measures has advantages, but both are limited: monthly income is noisy and insensitive to relative expenditures, while "money trouble" can be influenced by the "halo" of an individual's reputation for other traits. The most componential factor, "Chiefliness", produced a Chronbach's alpha score .95, indicating it was highly reliable. Of note, models utilizing exemplars from each factor (i.e., "chiefliness" as directly rated, age, "hotheadedness" as directly rated, years in school, and monthly income) produced qualitatively similar results to the factor scores. Perhaps less justifiable was the use of the two attitude factors. While the Positive factor was relatively reliable (e.g., producing an alpha of .94), the Negative factor was less so (.74), although still acceptable. Using factor scores obscured potentially important functional differences among different positive attitudes (e.g., love and respect), and

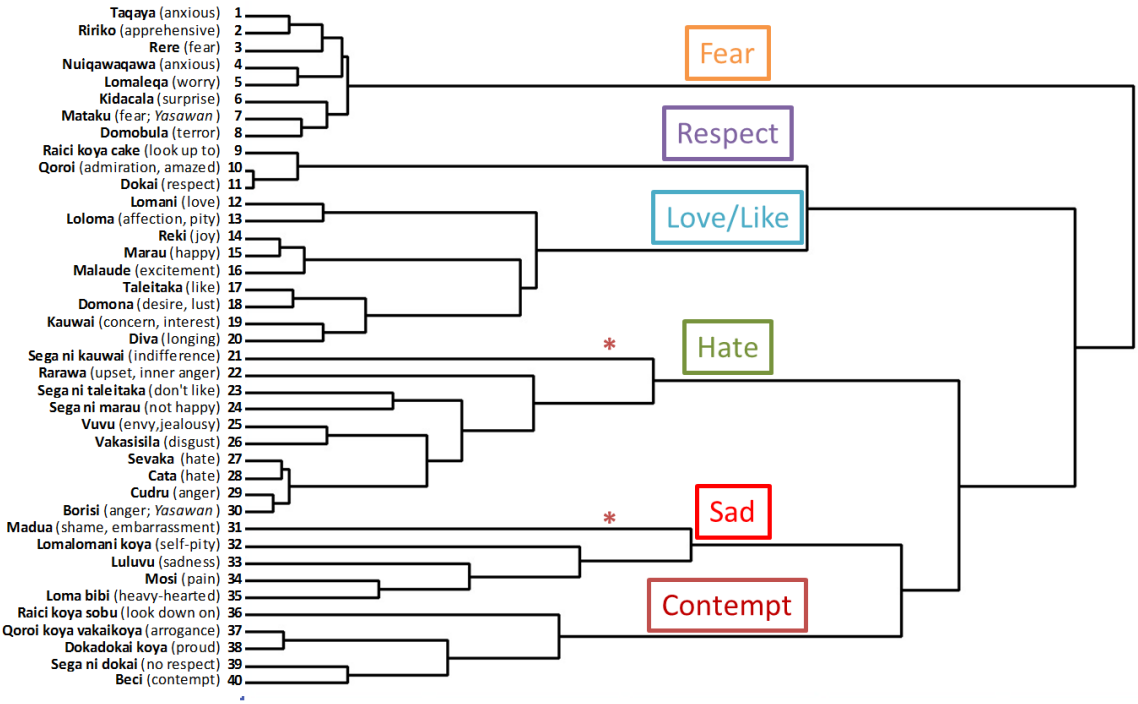
negative attitudes (e.g., hate and fear). Post-hoc analyses suggest that love and respect had differential roles in mediating the effects of Chiefliness and Elderliness, while fear appears to have been driving the effects of the Negative Attitudes factor. Future analyses will evaluate the differential effects of the distinct attitudes, and thereby shed further light on the proximate systems at issue.

6. Conclusion

The RICH economic games presented here tap the RICH norms and motives that operate within enduring social relationships in a Fijian community. The results fit with existing ethnographic accounts of Fiji, while revealing a surprising degree of leveling behavior. This study provides the clearest evidence of a strong egalitarian ethos (Boehm 1999) in a richly hierarchical society, advancing debate about the universality of such motives. The results with Chiefliness also support accounts of generosity that emphasize signaling of quality and investment in social capital (Fiske 1991; Hawkes 1993; Gintis et al. 2001). The proximate attitude results provide support for the ASE model of relationship psychology that emphasizes interpersonal attitudes as these represent relationship value, and as these attitudes adaptively moderate social behavior (see Chapters 1 & 2). In generating novel comparative data, this study lays the groundwork for a larger comparative enterprise designed to describe and explain, ultimately and proximately, the patterning of social relationships as these structure and support human adaptation.

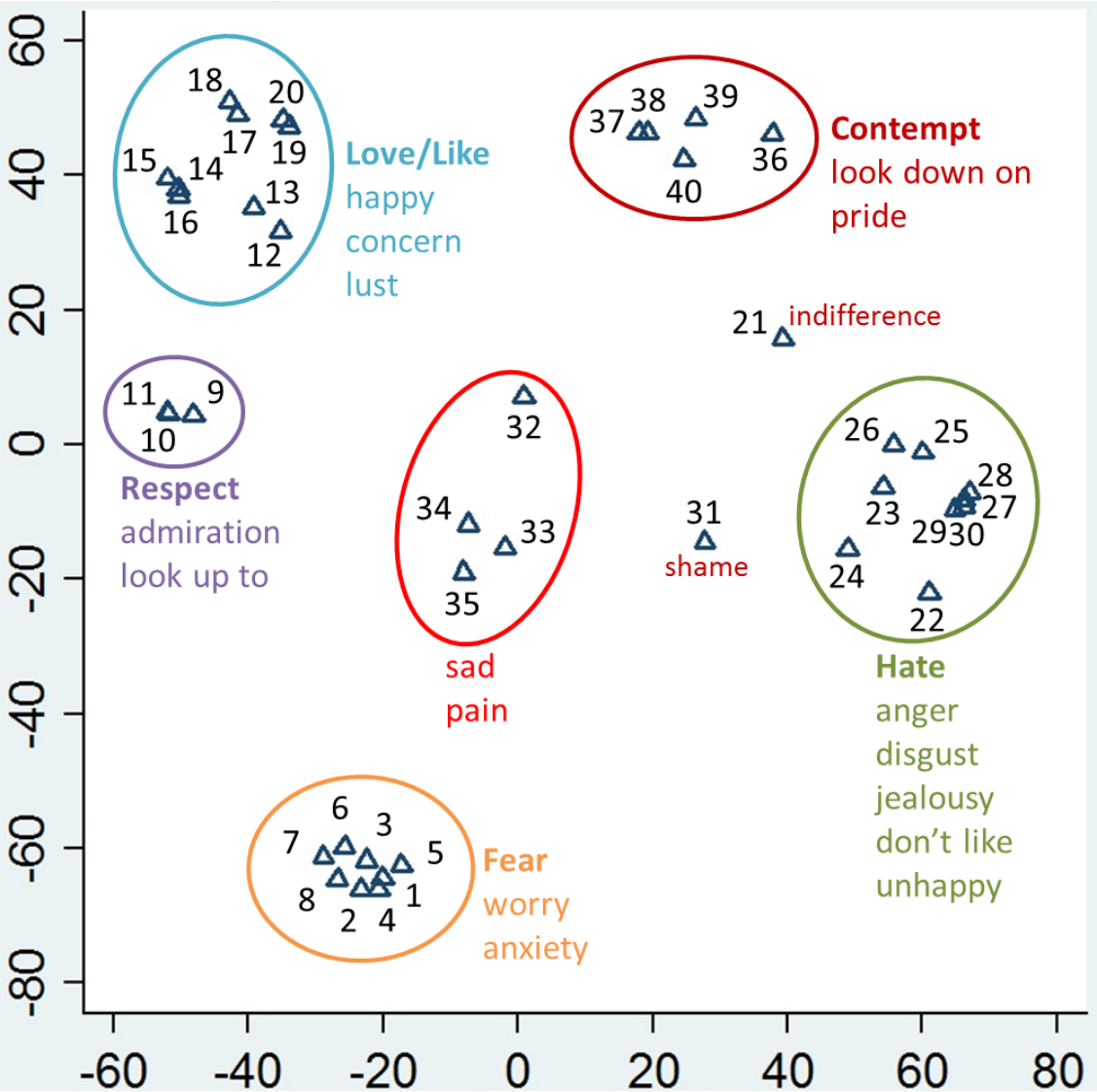
FIGURES

Figure 2.01 Dendrogram of a hierarchical cluster analysis of Yasawan affect terms



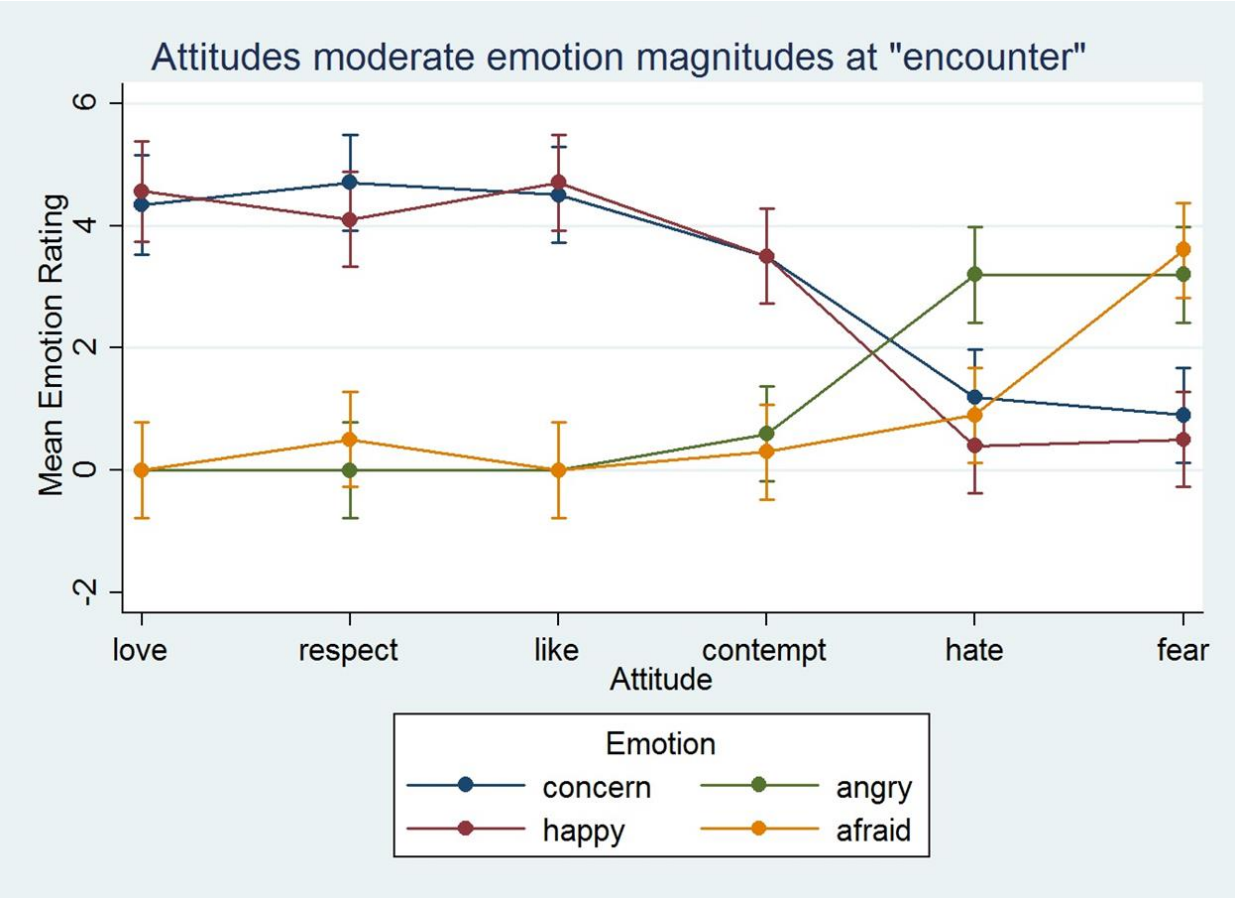
A dendrogram of a hierarchical cluster analysis (HCA) of the 40 terms sorted into unconstrained piles based on similarity by N = 30 Yasawan villagers. The linkage method used is average-linkage, applied to a dissimilarity matrix of the total number of times terms were sorted into separate piles. Linkage distance scales with dissimilarity.

Figure 2.02 First two dimensions of a multidimensional scaling of Yasawan affect terms



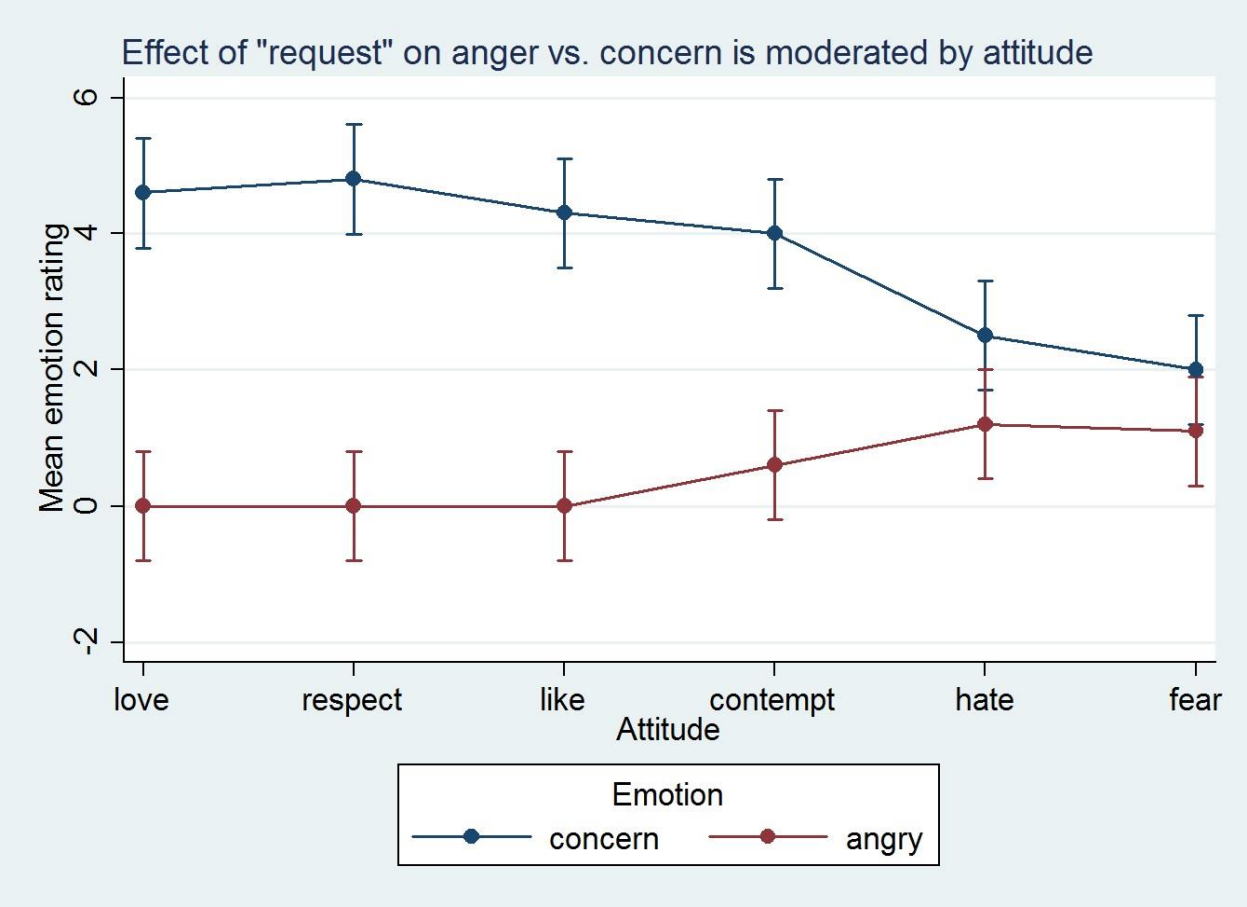
A multidimensional scaling (MDS) plot of the 40 terms sorted into unconstrained piles based on similarity by N = 30 Yasawan villagers, with classical normalization and L2 dissimilarity computation. The number labels correspond to those on the HCA dendrogram in Figure 2.01.

Figure 2.03 Mean ratings of four emotions across six attitude groups for scenario *encounter*



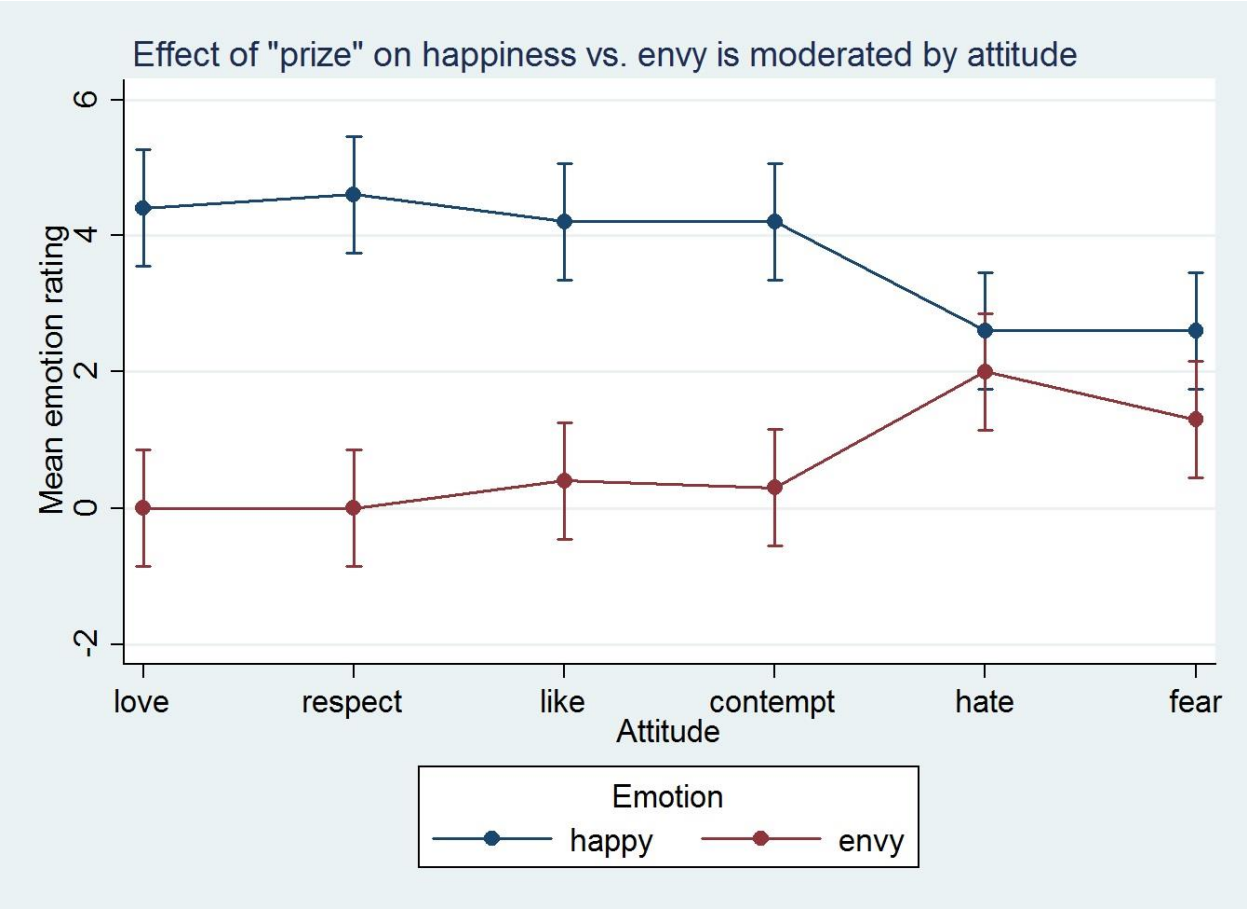
Mean ratings of "concern" (*kauwai*), "happy" (*marau*), "angry" (*borisi*), and "afraid" (*rere*) across the six attitude groups for the scenario *encounter*. Error bars are 95% CIs.

Figure 2.04 Mean ratings of two emotions across six attitude groups for scenario *request*



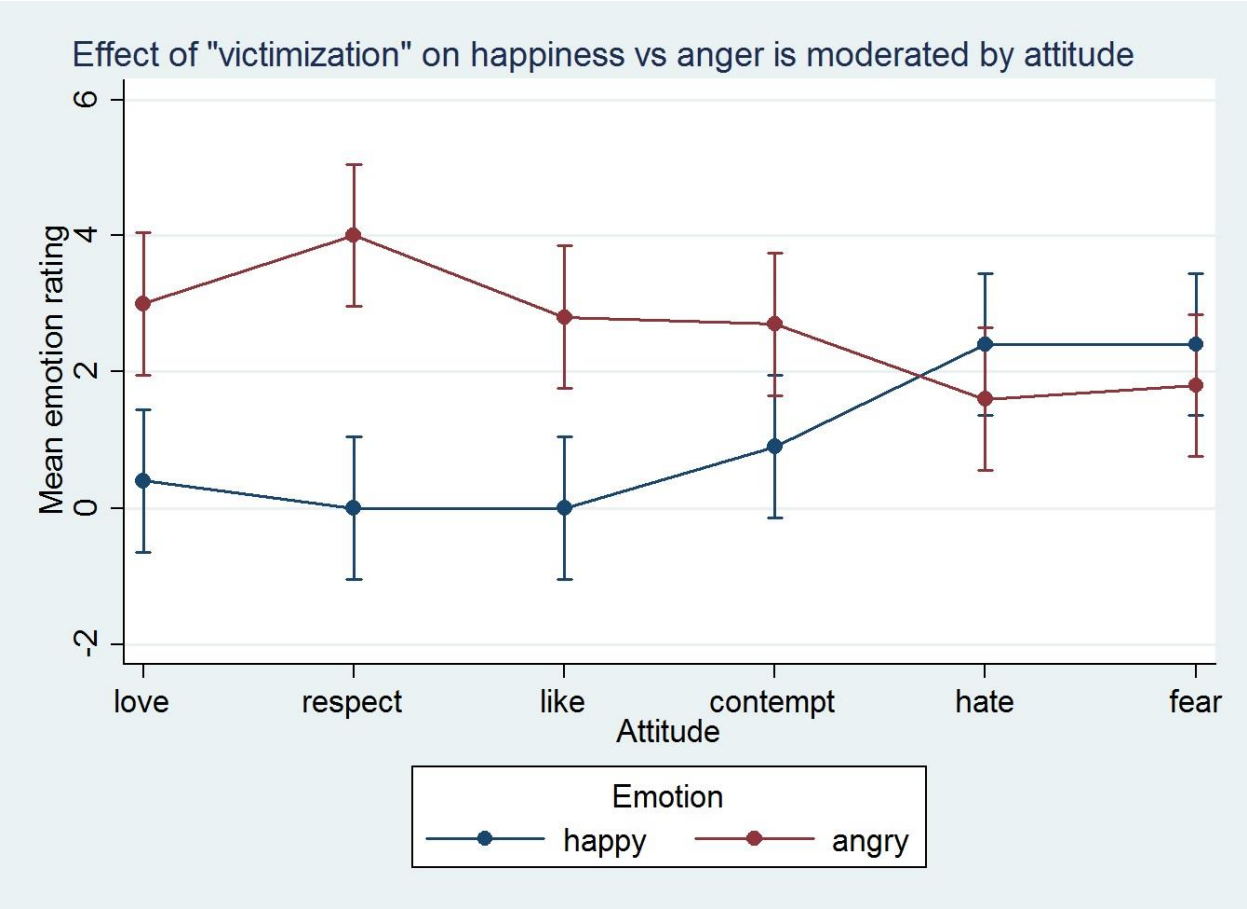
Mean ratings of "concern" (*kauwai*) and "angry" (*borisi*) across the six attitude groups for the scenario *request*. Error bars are 95% CIs.

Figure 2.05 Mean ratings of two emotions across six attitude groups for scenario *prize*



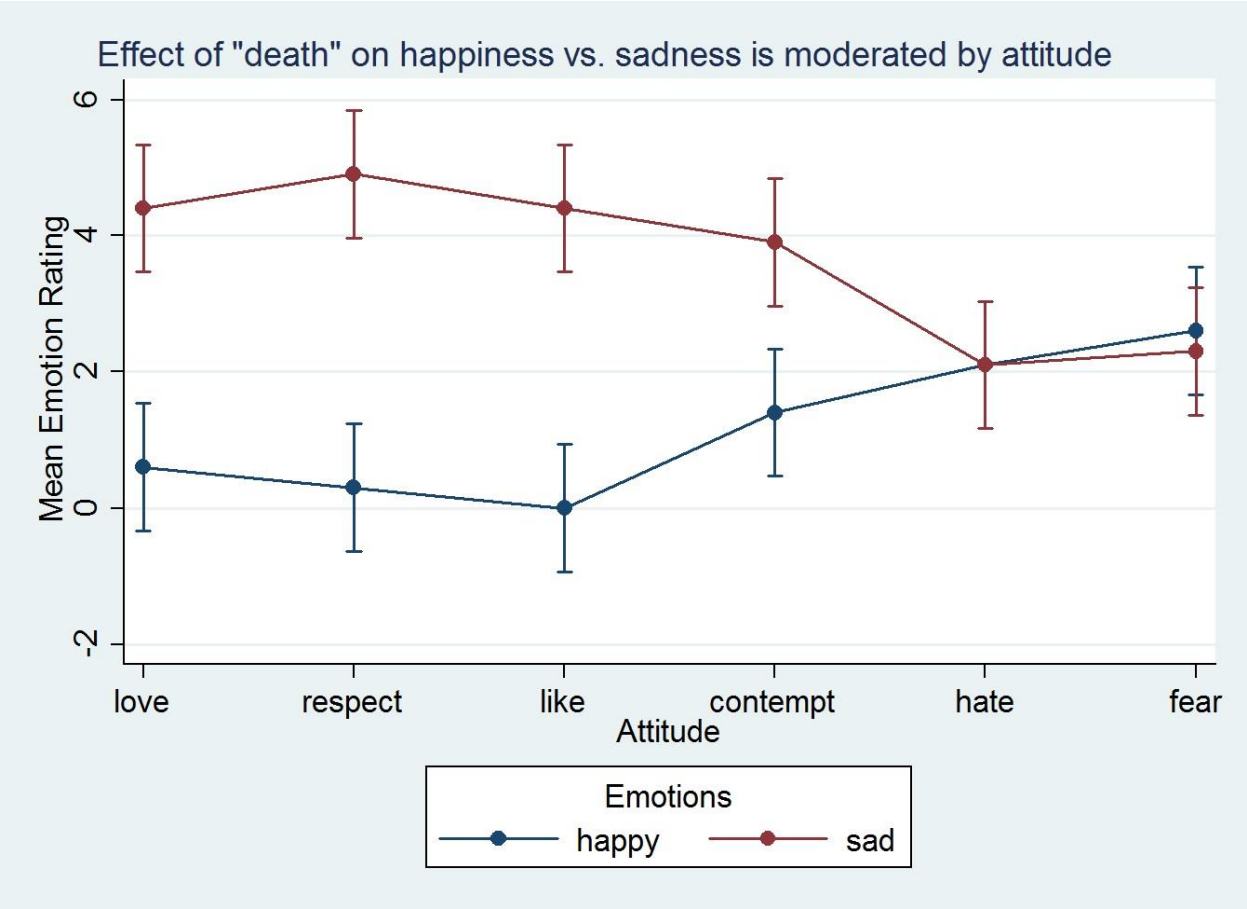
Mean ratings of "happy" (*marau*) and "envy" (*vuvu*) across the six attitude groups for the scenario *prize*. Error bars are 95% CIs.

Figure 2.06 Mean ratings of two emotions across six attitude groups for scenario *victimization*



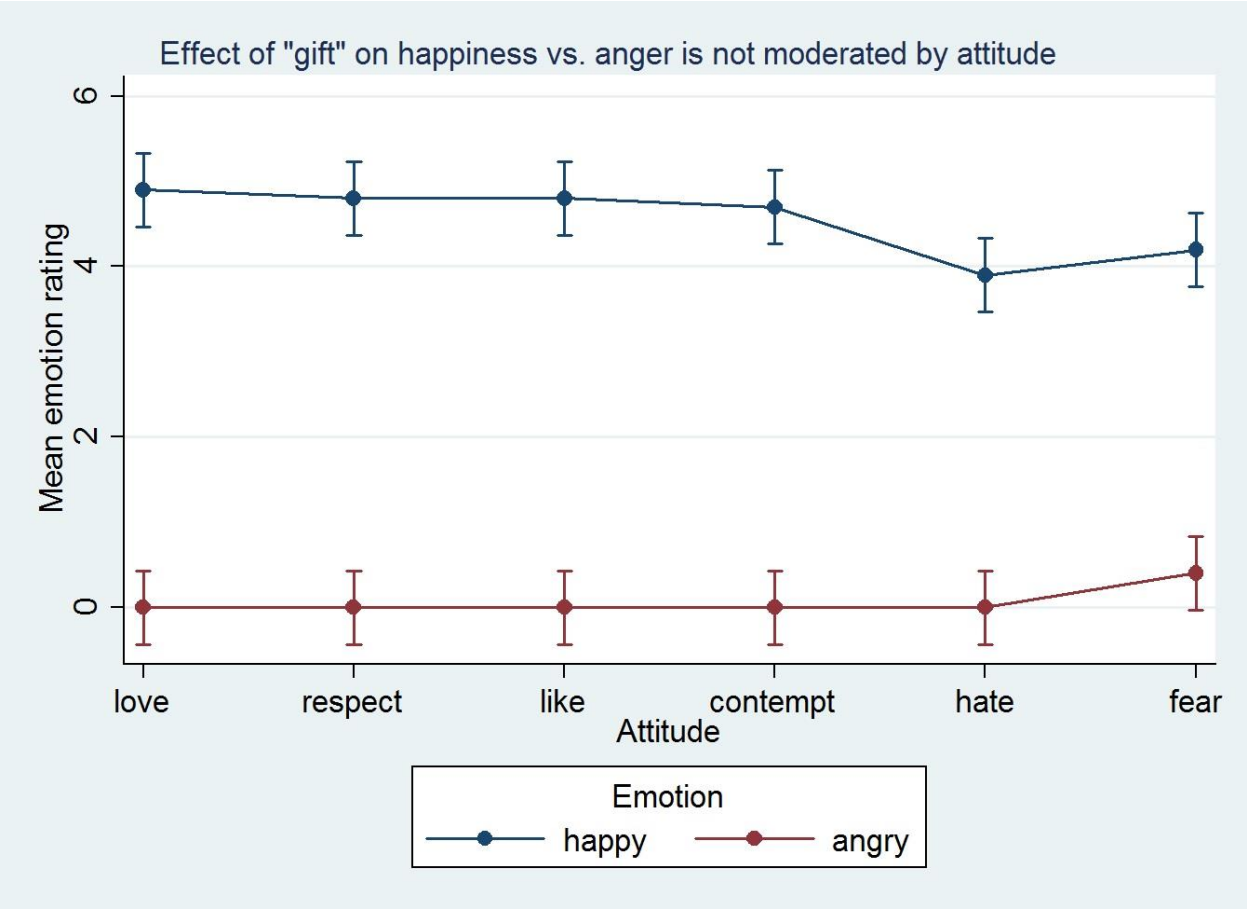
Mean ratings of "happy" (*marau*) and "angry" (*borisi*) across the six attitude groups for the scenario *victimization*. Error bars are 95% CIs.

Figure 2.07 Mean ratings of two emotions across six attitude groups for scenario *death*



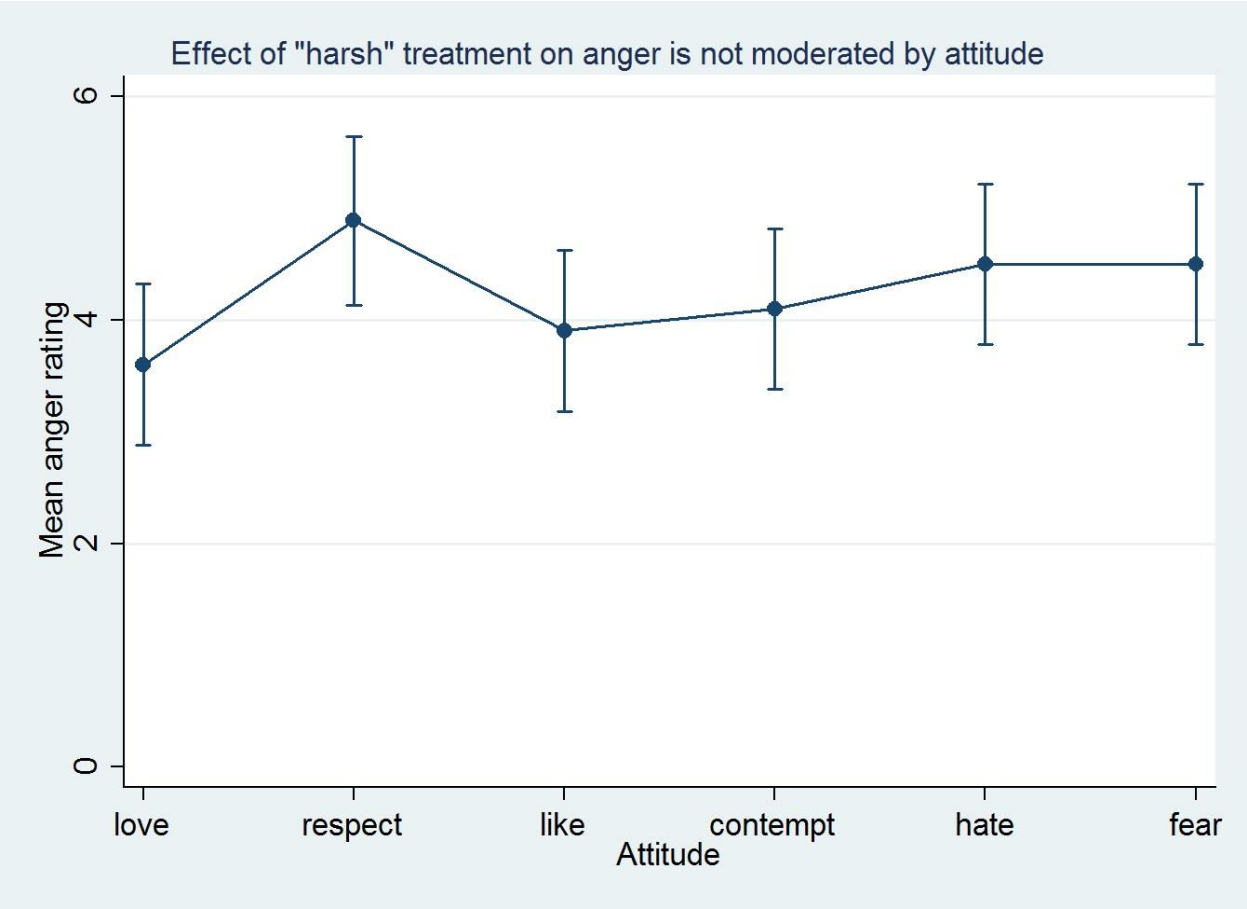
Mean ratings of "happy" (*marau*) and "sad" (*luluvu*) across six attitude groups for the scenario *death*. Error bars are 95% CIs.

Figure 2.08 Mean ratings of two emotions across six attitude groups for scenario *gift*



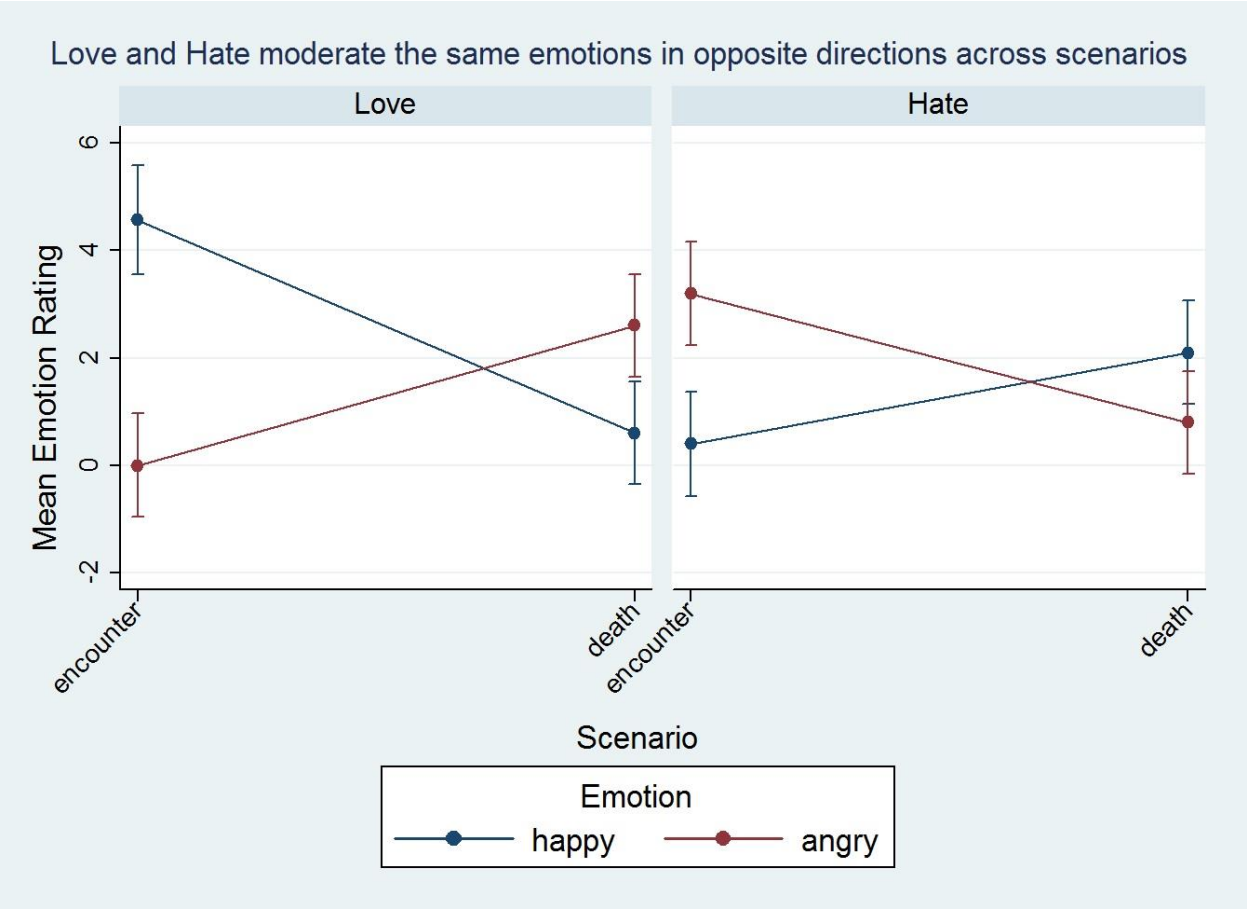
Mean ratings of "happy" (*marau*) and "angry" (*borisi*) across the six attitude groups for the scenario *gift*. Error bars are 95% CIs.

Figure 2.09 Mean ratings of anger across six attitude groups for scenario *harsh*



Mean ratings of "anger" (*borisi*) across the six attitude groups for the scenario *harsh*. Error bars are 95% CIs.

2.10 Mean ratings of two emotions by Love and Hate groups for *encounter* and *death*



Mean ratings of "happiness" (*marau*) and "anger" (*borisi*) by the Love (*lomana*) and Hate (*sevaka*) groups for the *encounter* and *death* scenarios. Error bars are 95% CIs.

Figure 3.01 Schematic representation of the Allocation Game

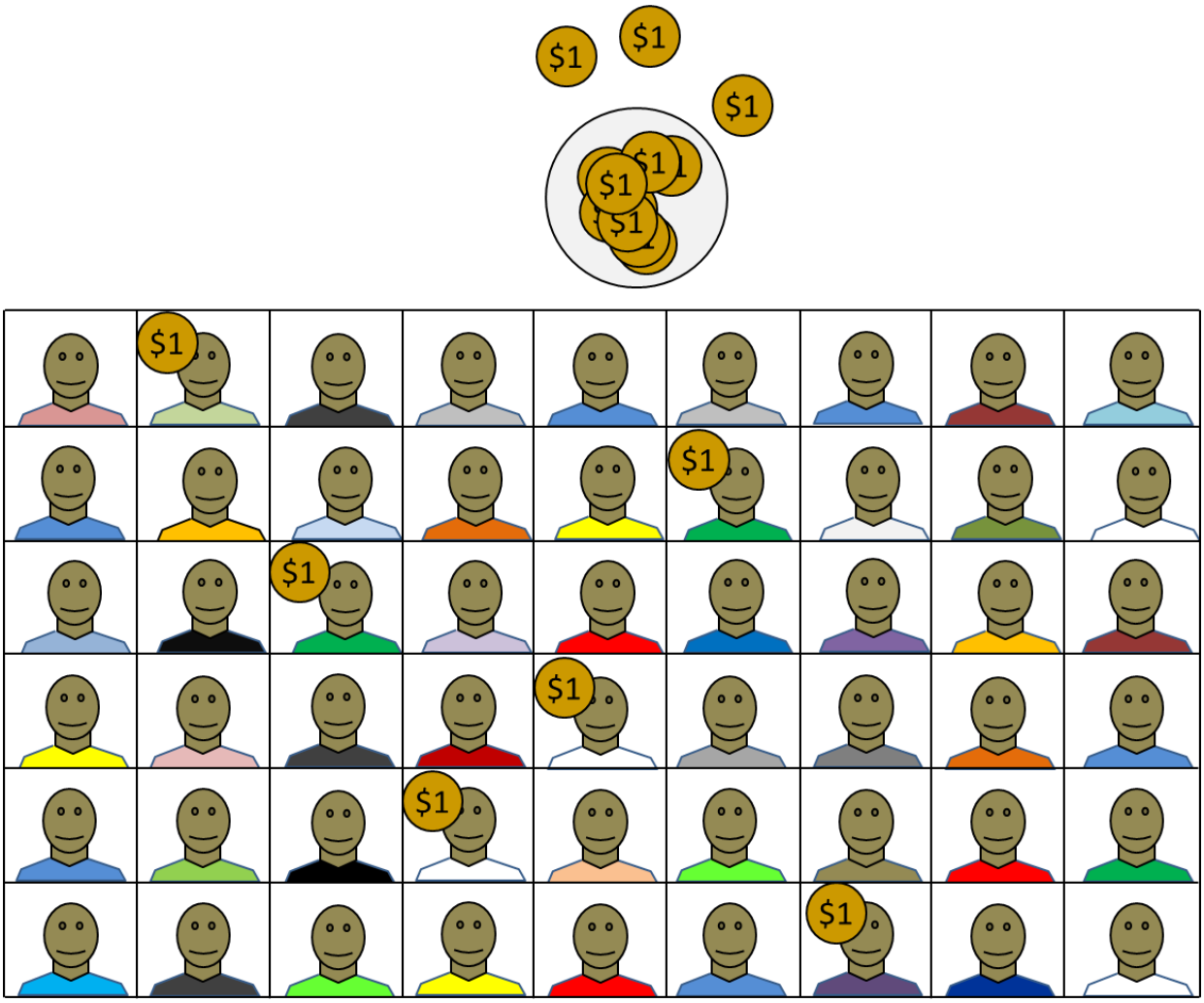


Figure 3.02 Schematic representation of Taking Game

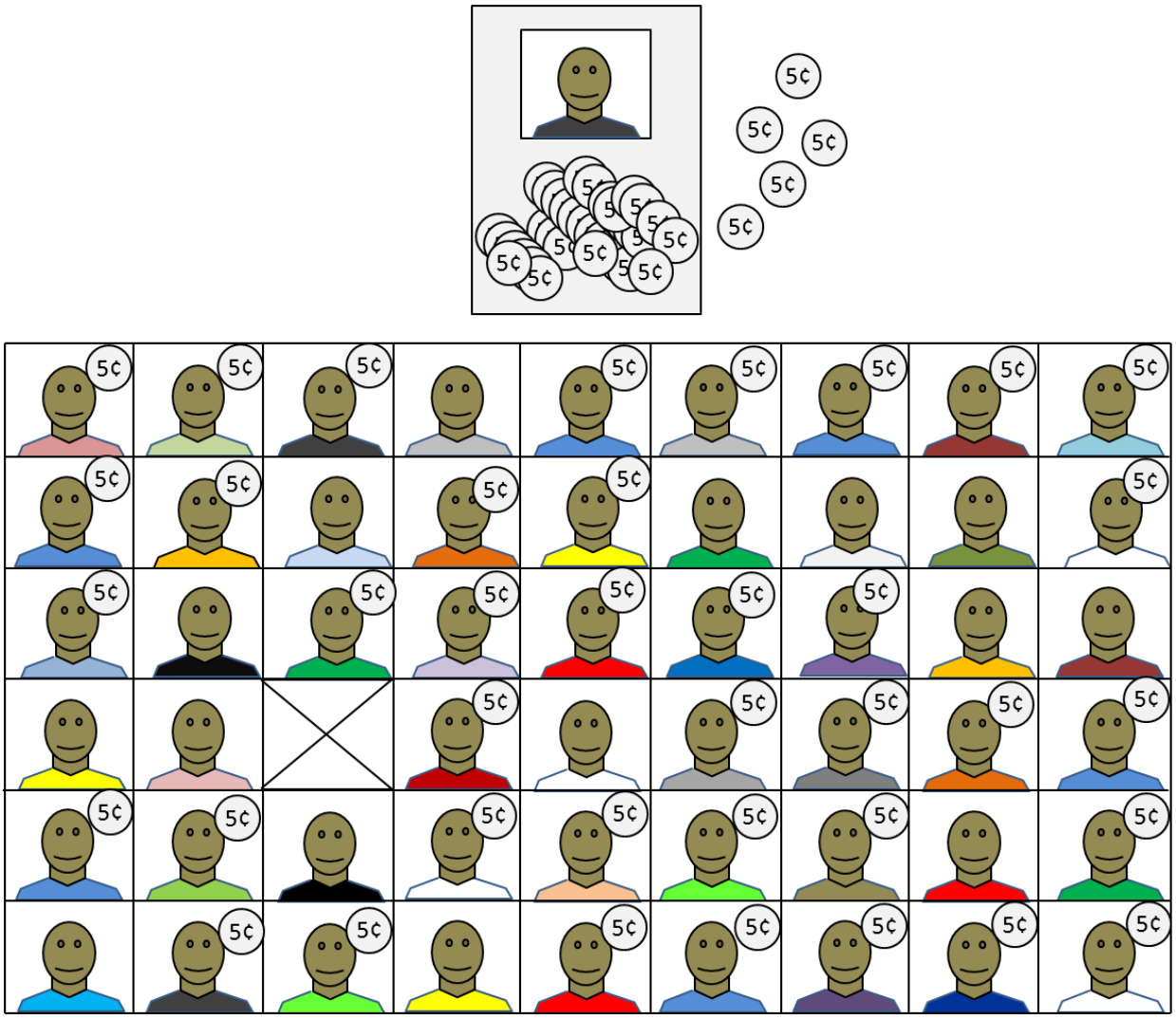


Figure 3.03 Schematic representation of Costly Reduction Game

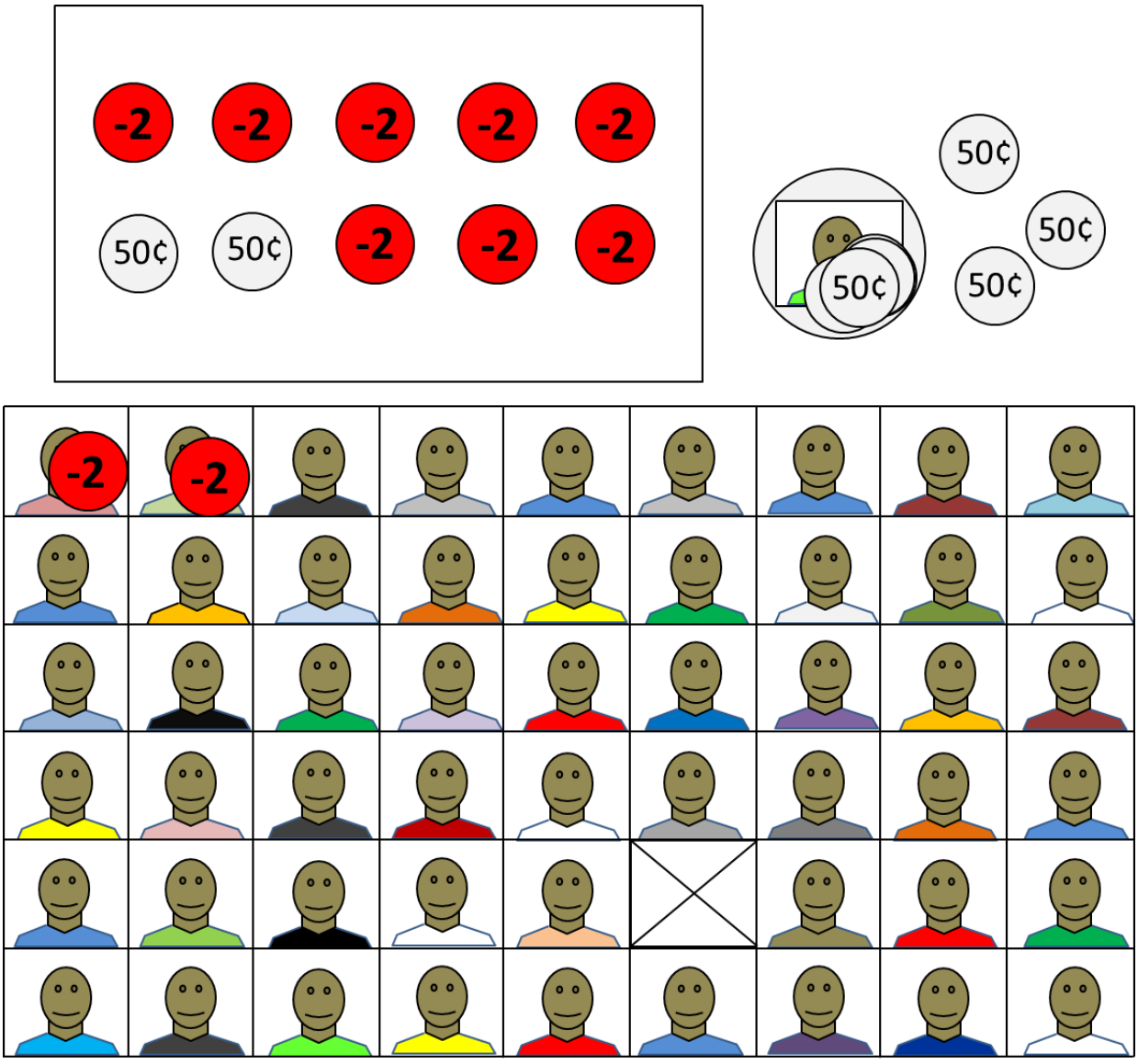


Figure 3.04 Histogram of percent of FJD $20 kept by Ego in Allocation Game

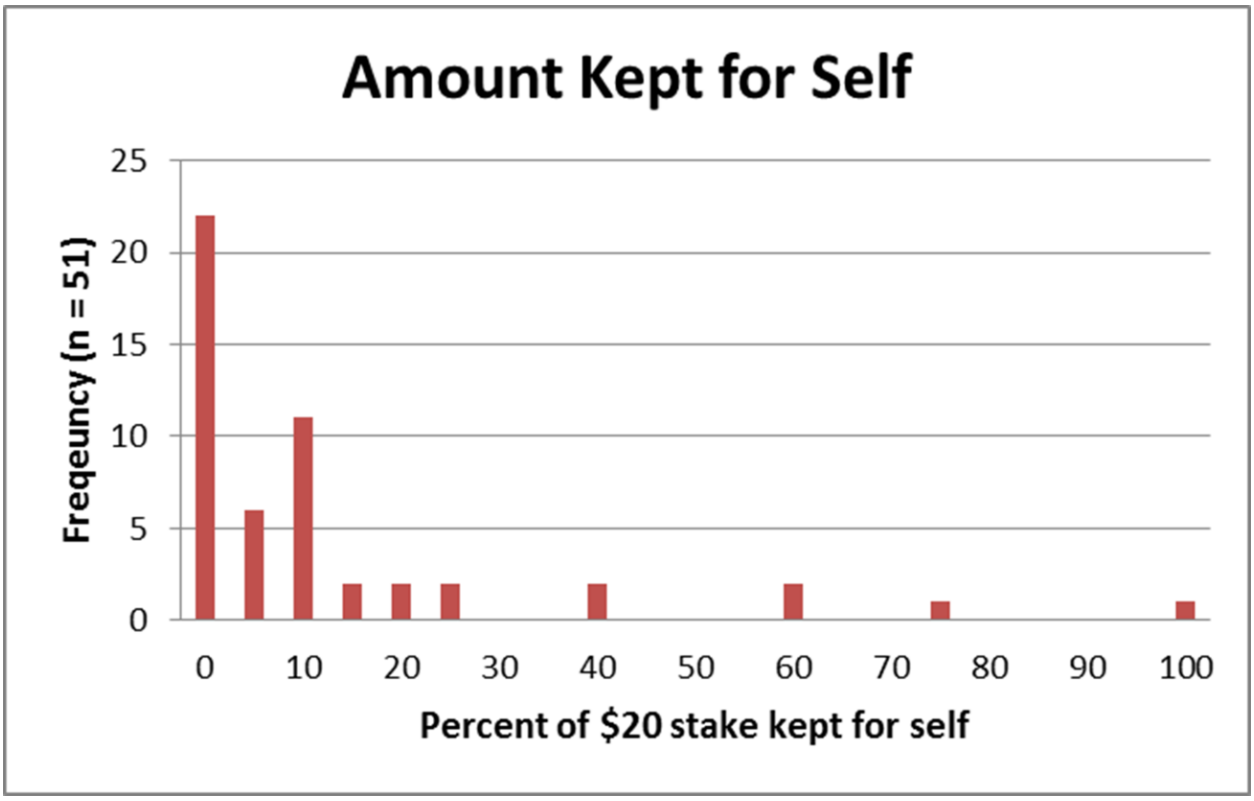


Figure 3.05 Histogram of number of recipients allocated to in Allocation Game

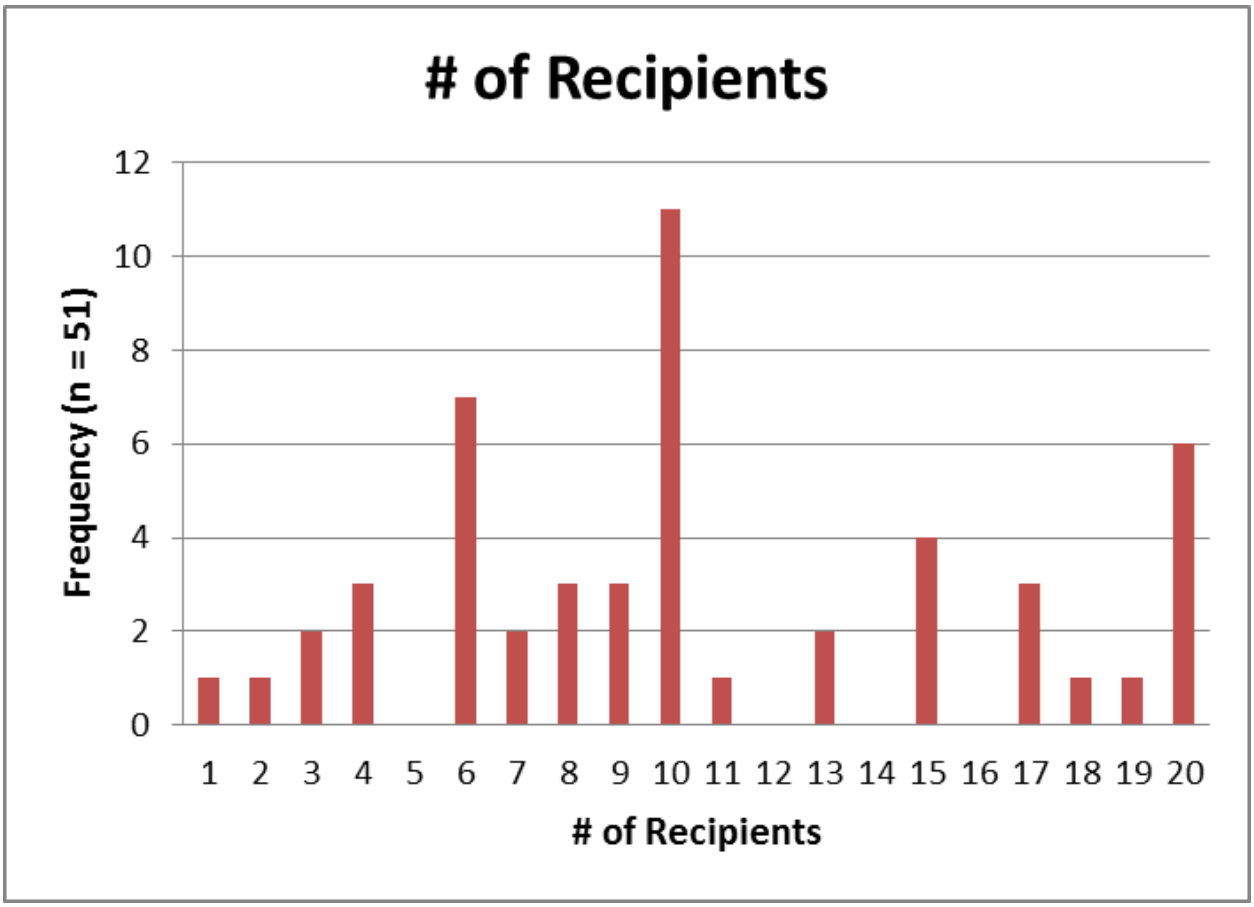


Figure 3.06 Histogram of allocation sizes in Allocation Game

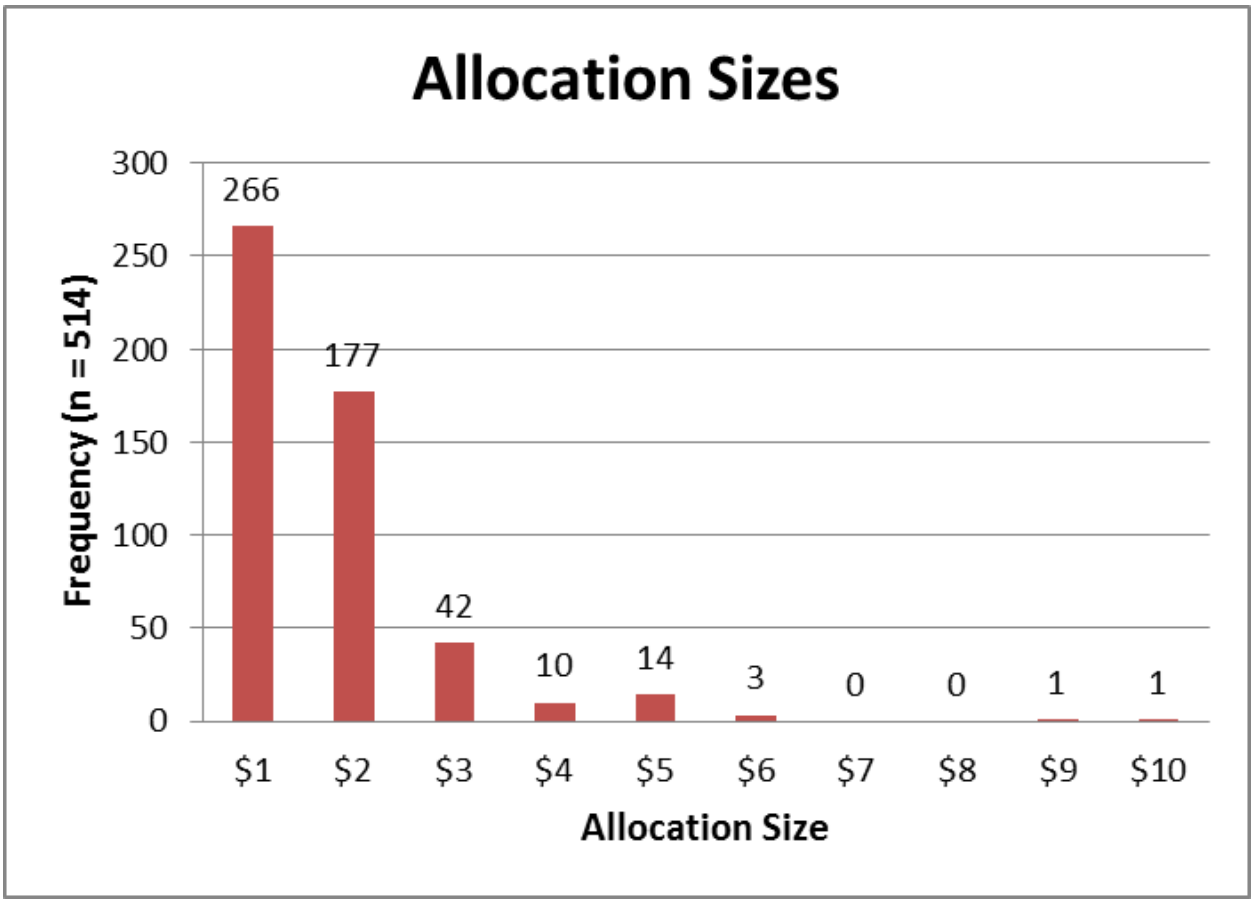


Figure 3.07 Histogram of percent of FJD $21.20 taken by Ego in Taking Game

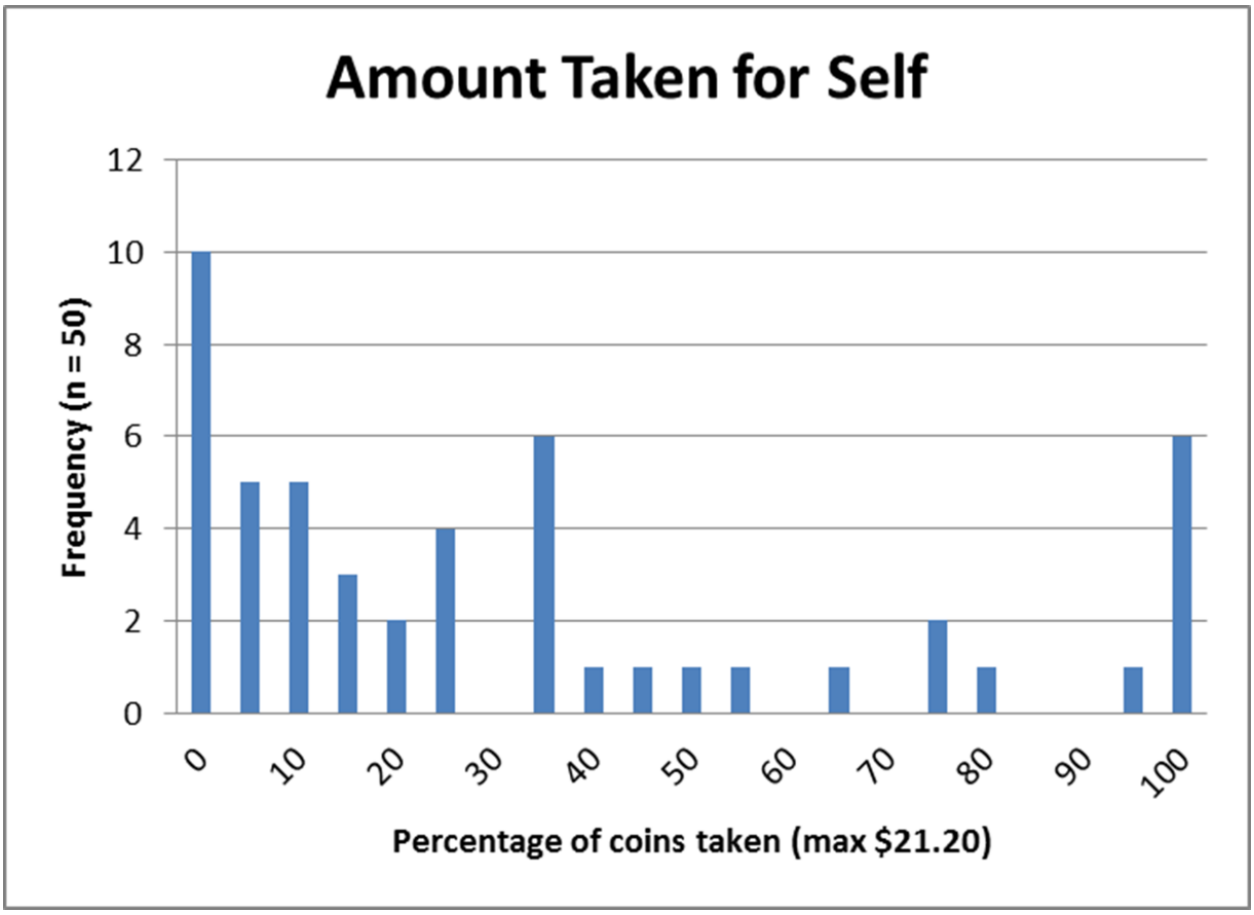


Figure 3.08 Histogram of percent of targets taken from in Taking Game

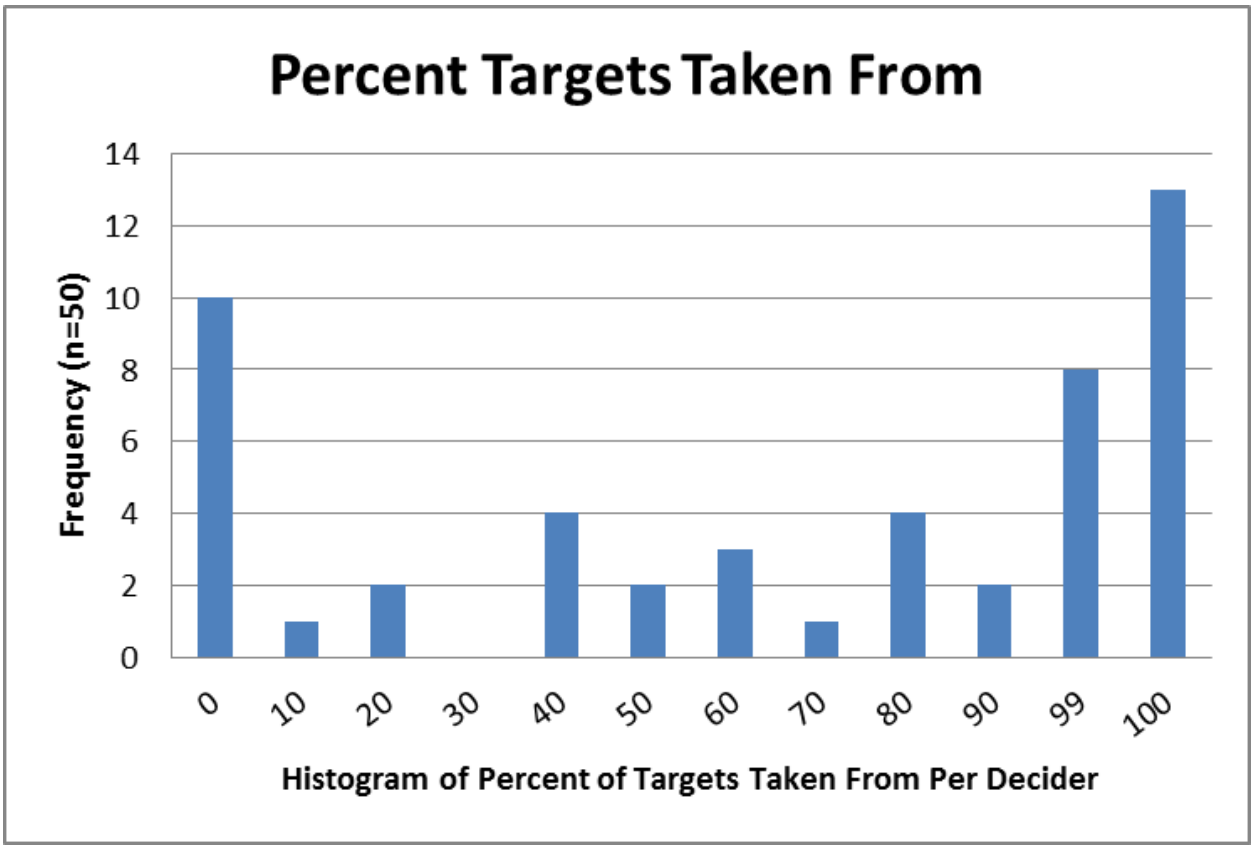


Figure 3.09 Histogram of percent of FJD $5 spent to reduce others in Costly Reduction Game

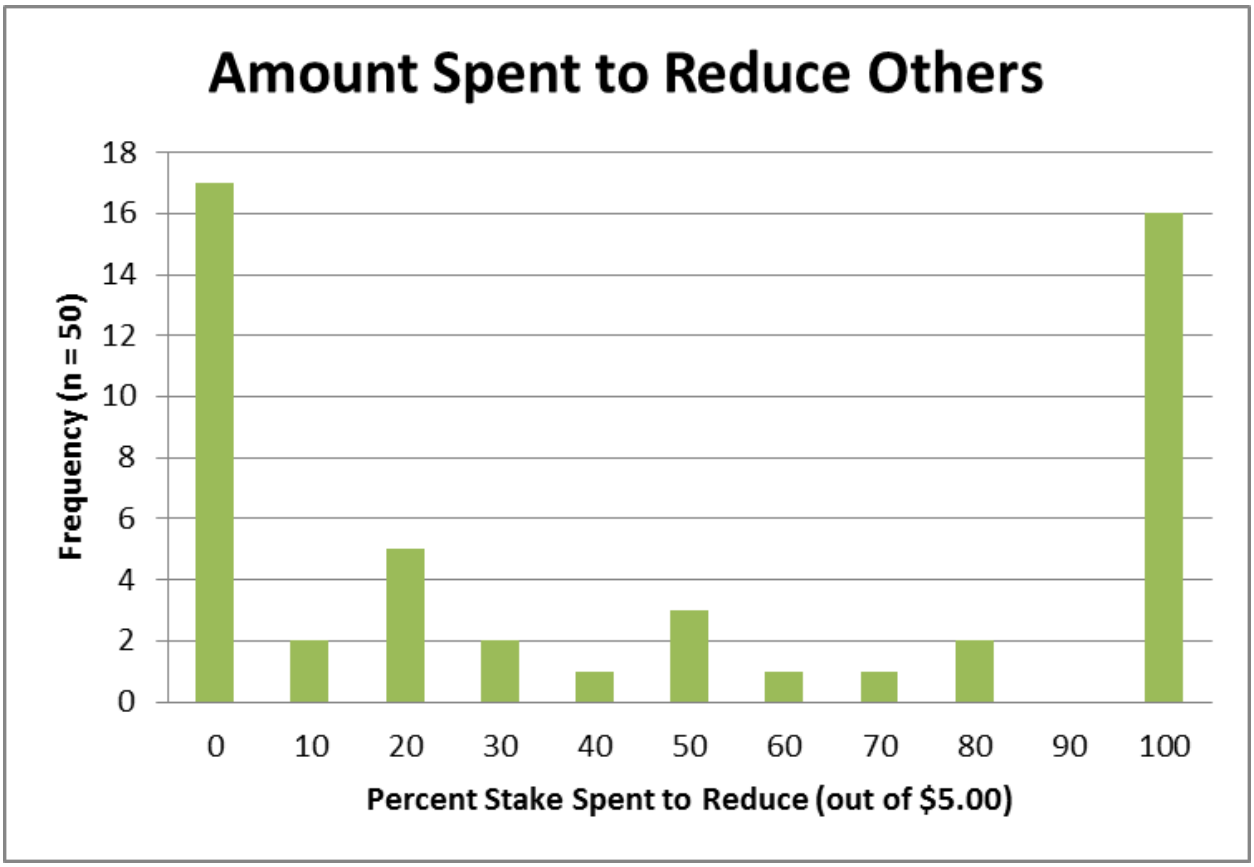


Figure 3.10 Histogram of number of targets reduced in Costly Reduction Game

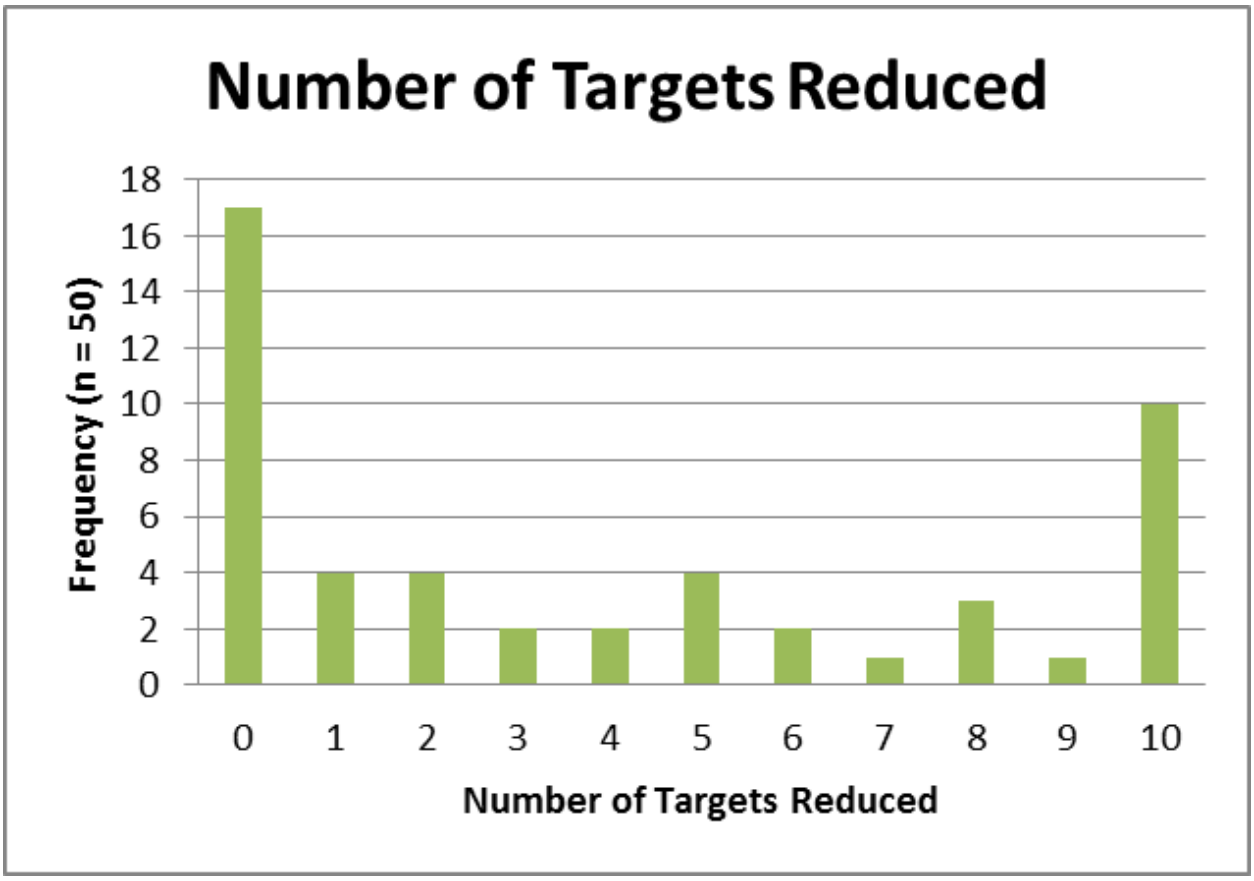


Figure 3.11 Histogram of size of reductions of one target in Costly Reduction Game

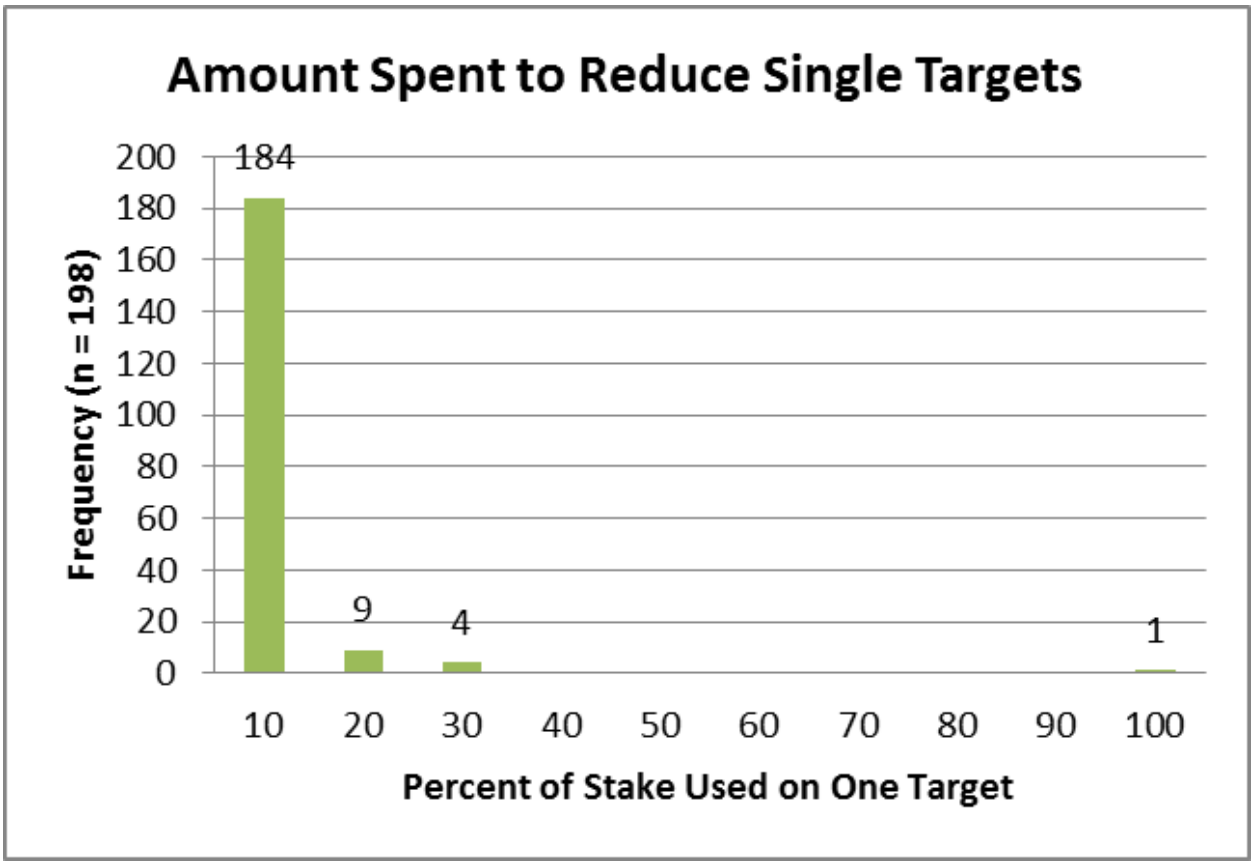


Figure 3.12 Bar chart of total earnings by 50 deciders across three games

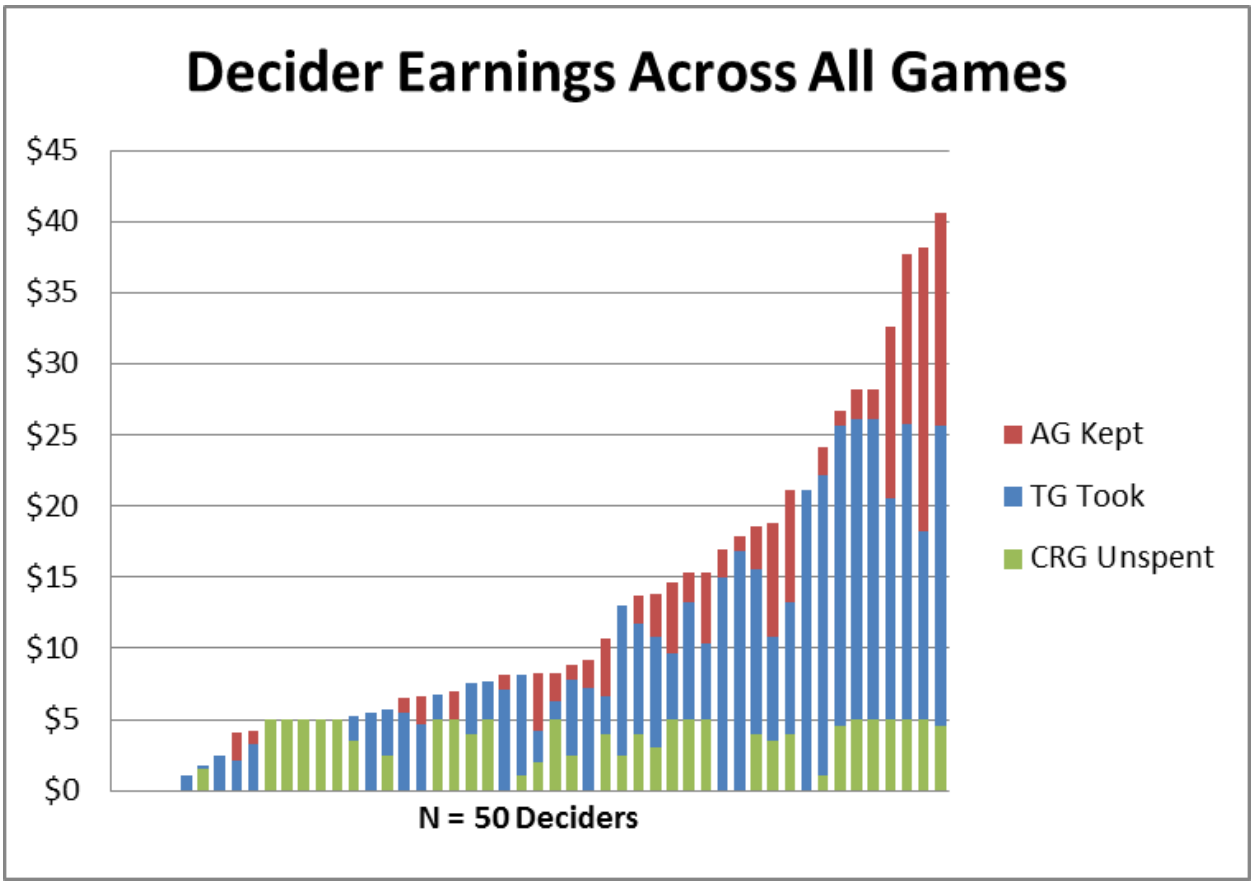


Figure 3.13 Histogram of amount received by targets from all deciders in Allocation Game

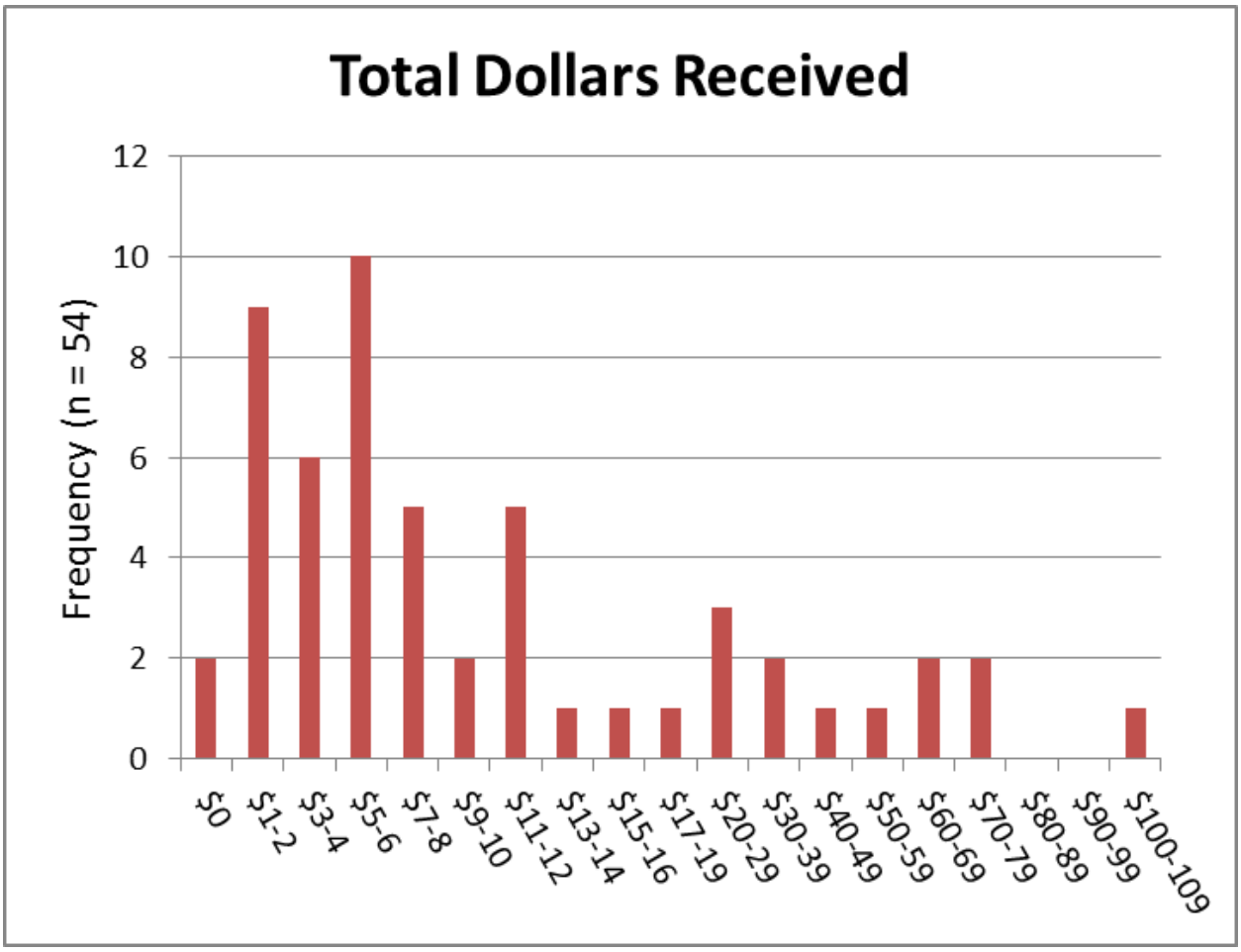


Figure 3.14 Histogram of percent of deciders from whom targets received in Allocation Game

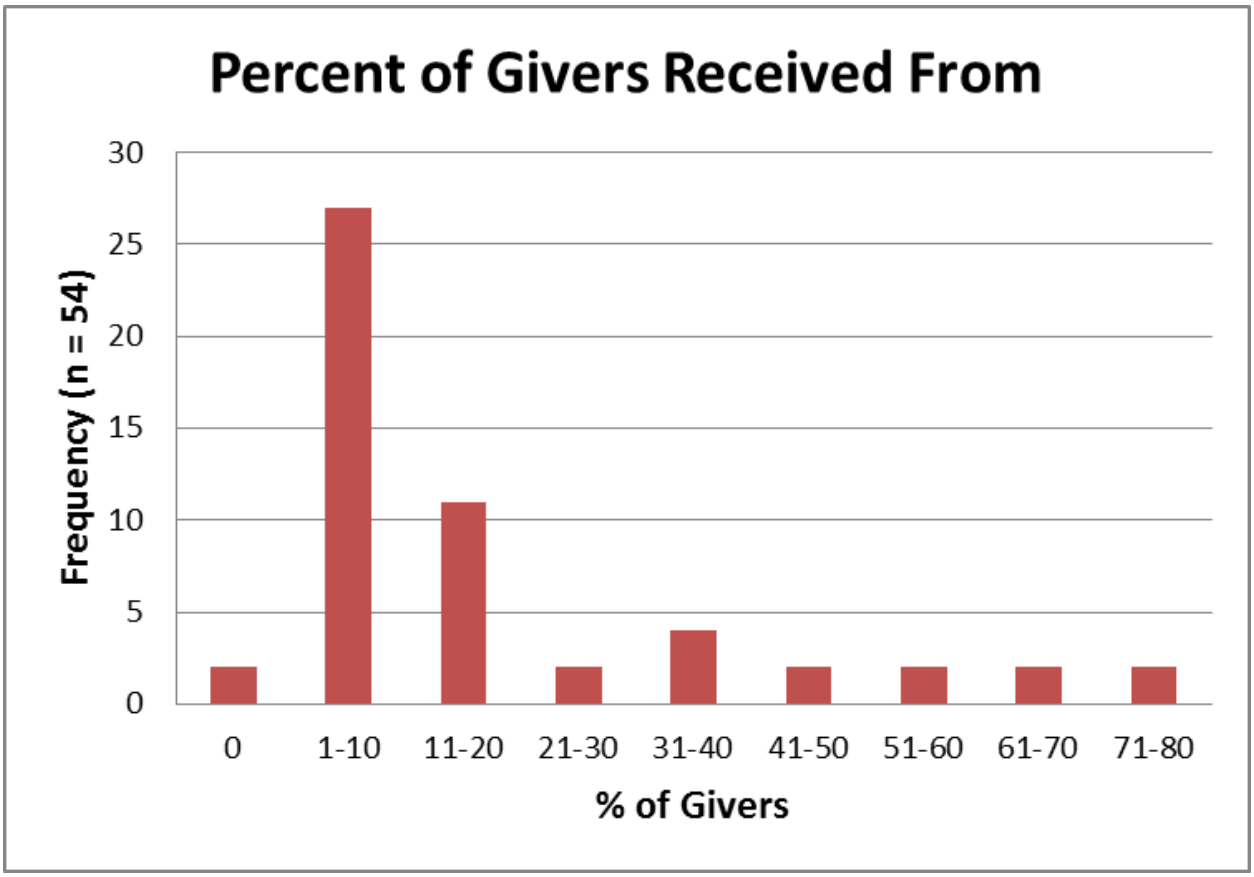


Figure 3.15 Histogram of percent of FJD $20 taken from targets by all deciders in Taking Game

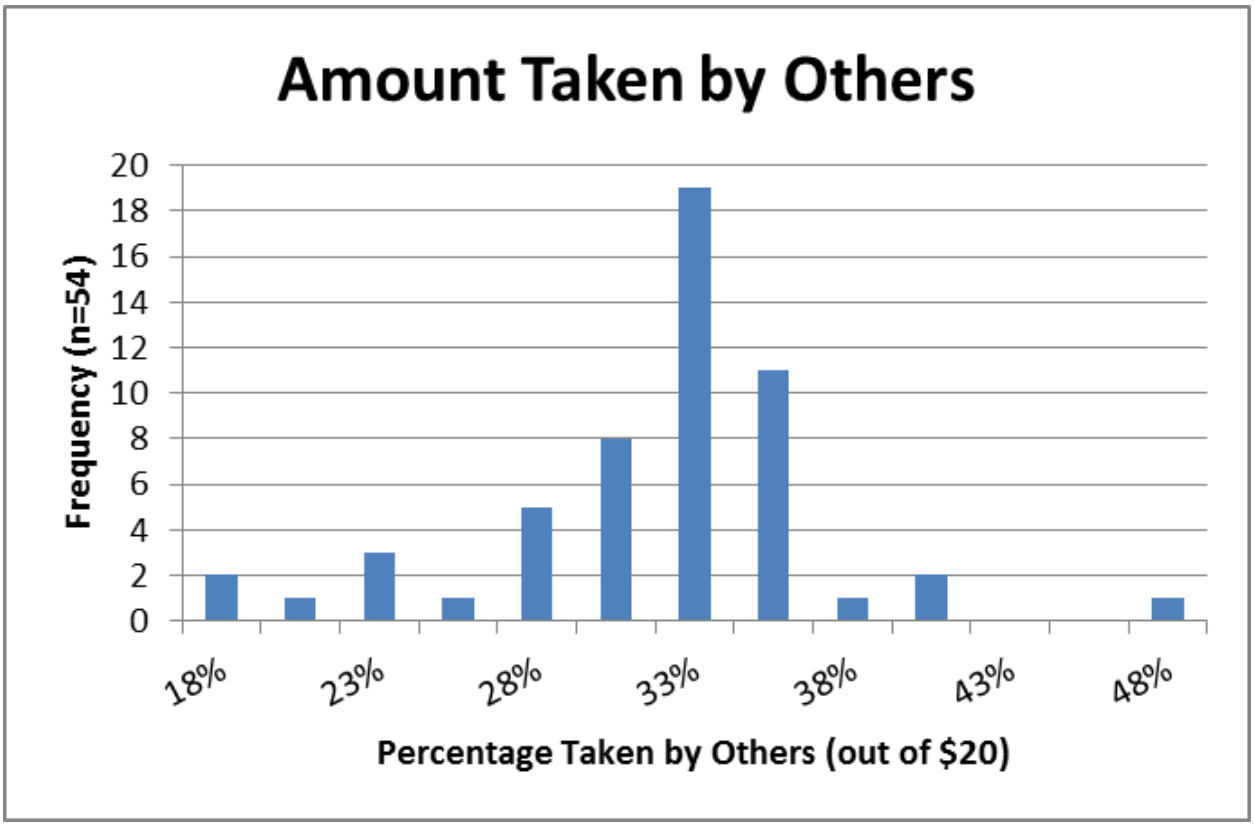


Figure 3.16 Histogram of percent of deciders taking from targets in Taking Game

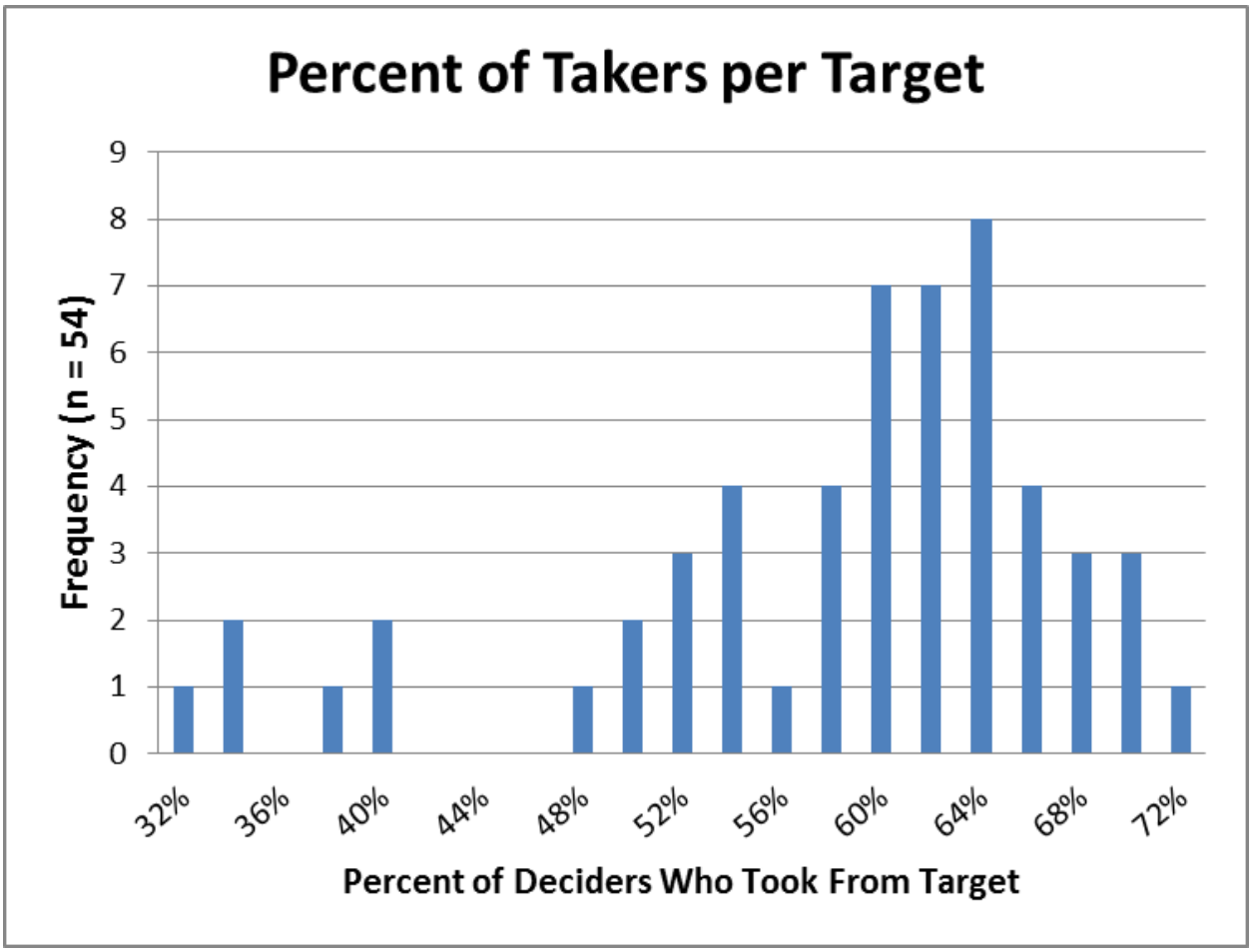


Figure 3.17 Histogram of total amount targets were reduced across deciders in CRG

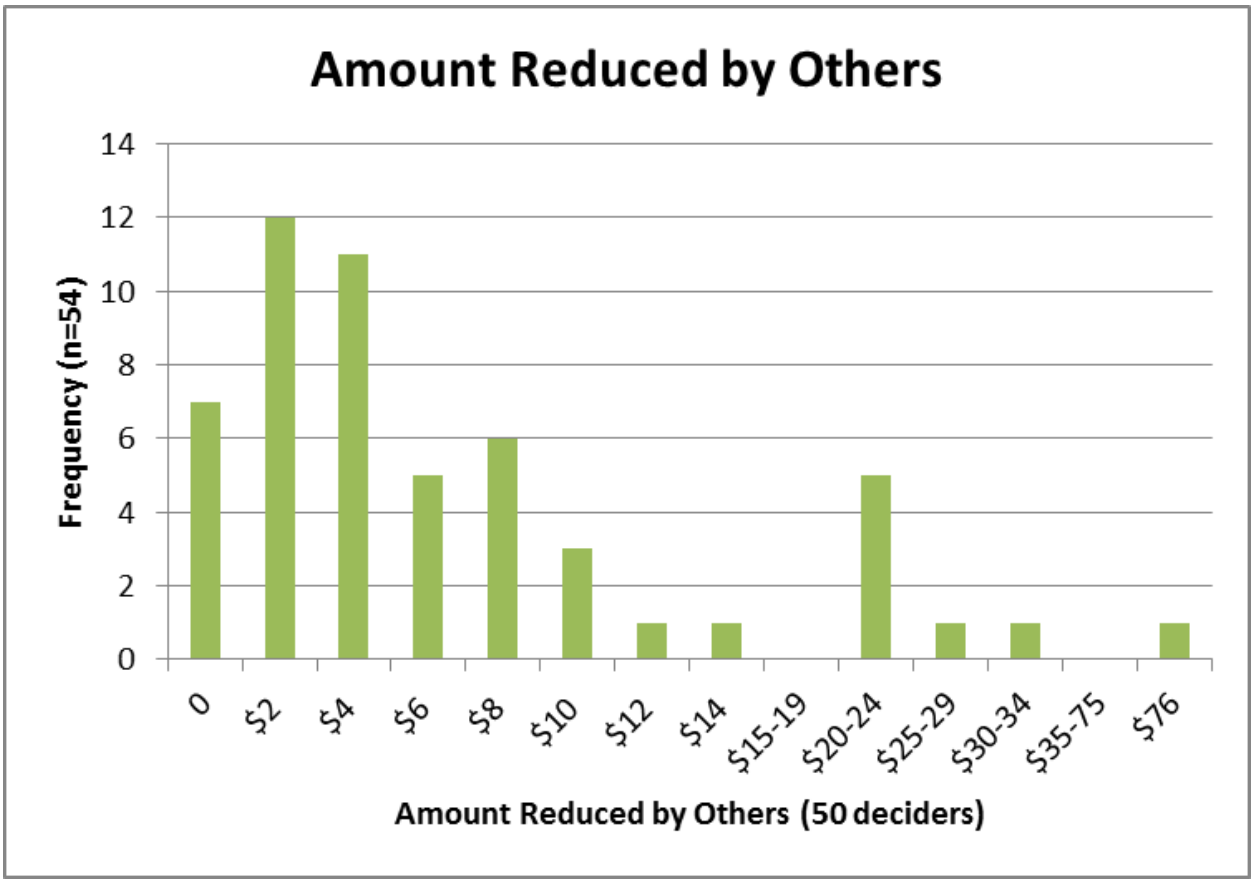


Figure 3.18 Histogram of number of deciders reducing each target in Costly Reduction Game

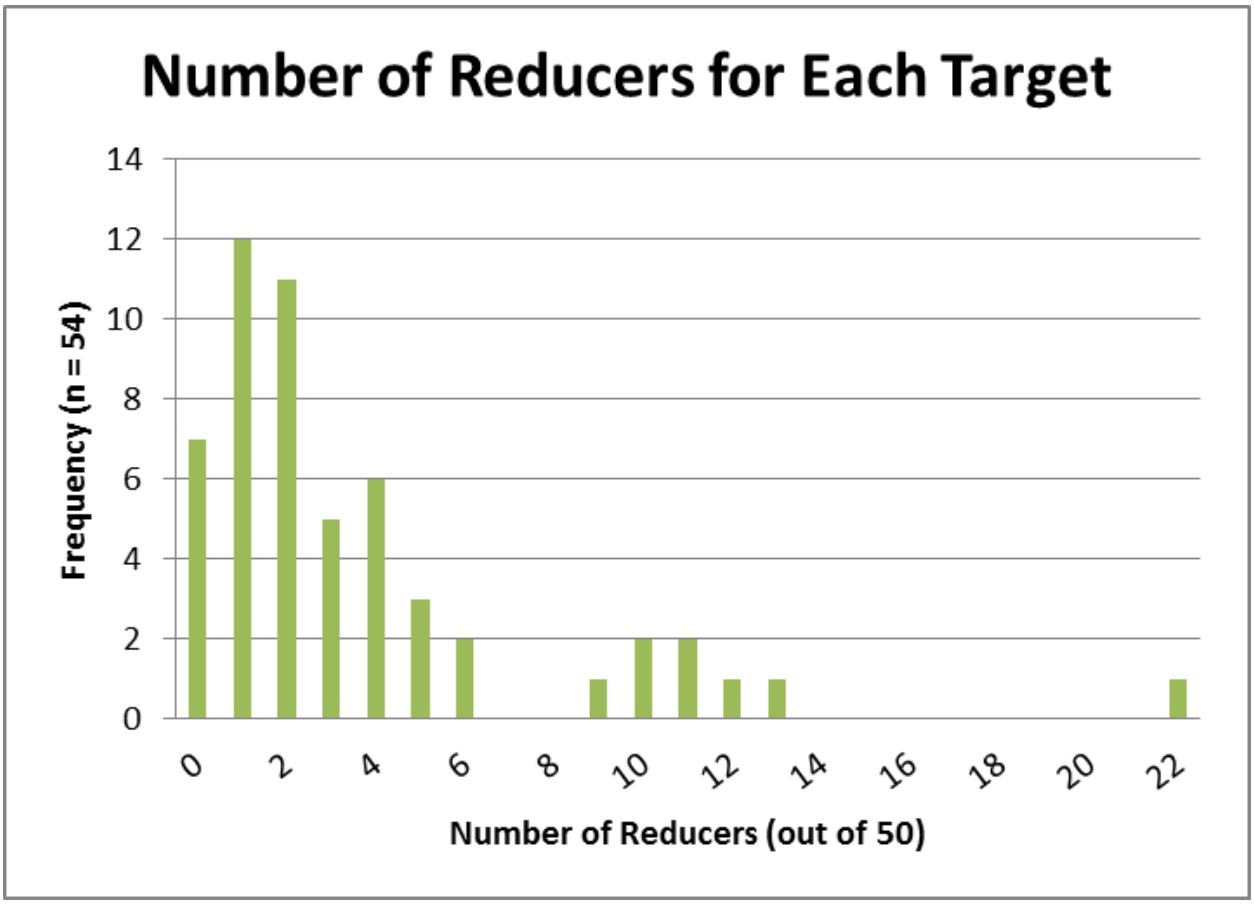


Figure 3.19 Bar chart of total earning by 54 targets across three games

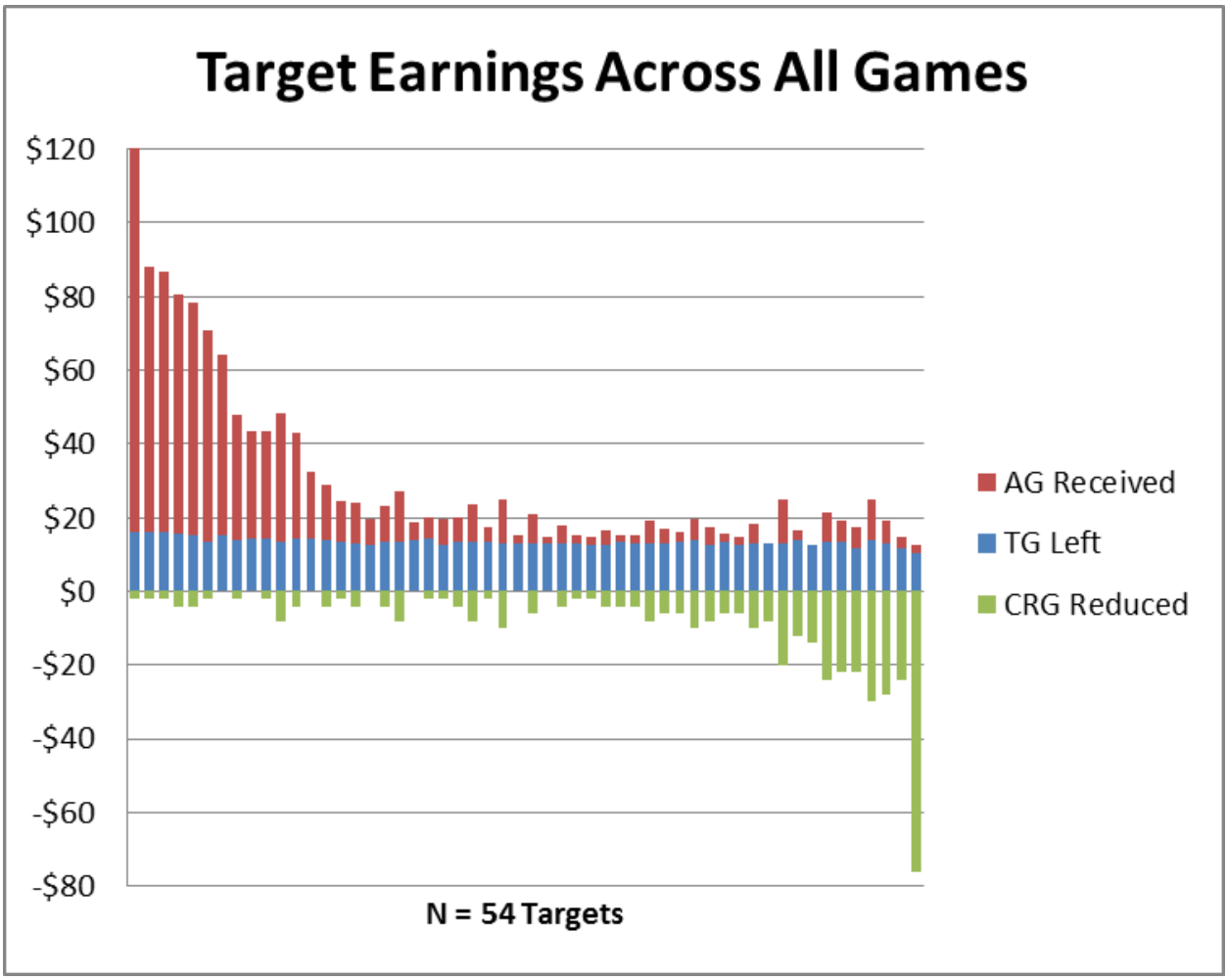


Figure 3.20 Bar chart comparing reported reasons for decisions in Allocation Game

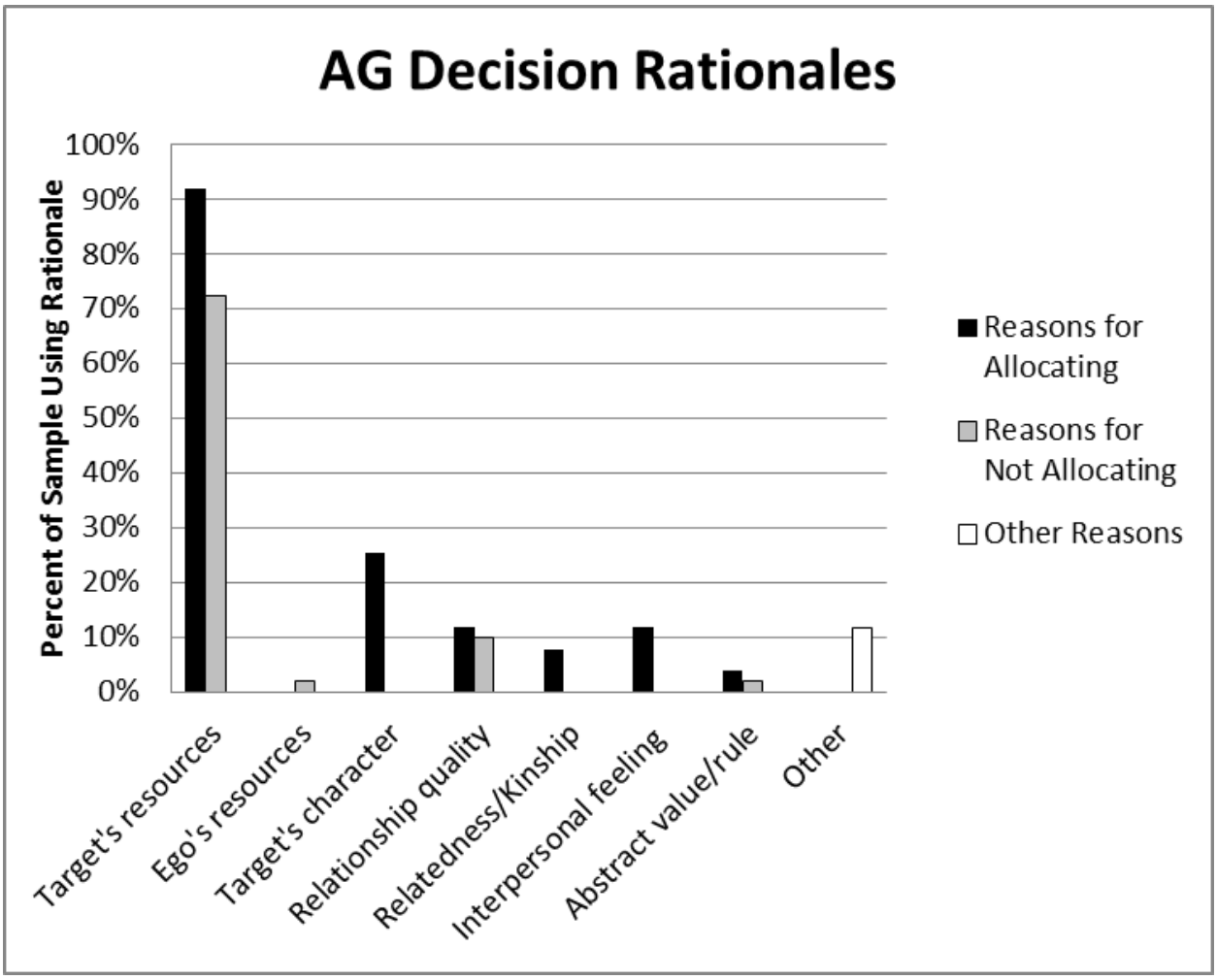


Figure 3.21 Bar chart comparing reported reasons for decisions in Taking Game

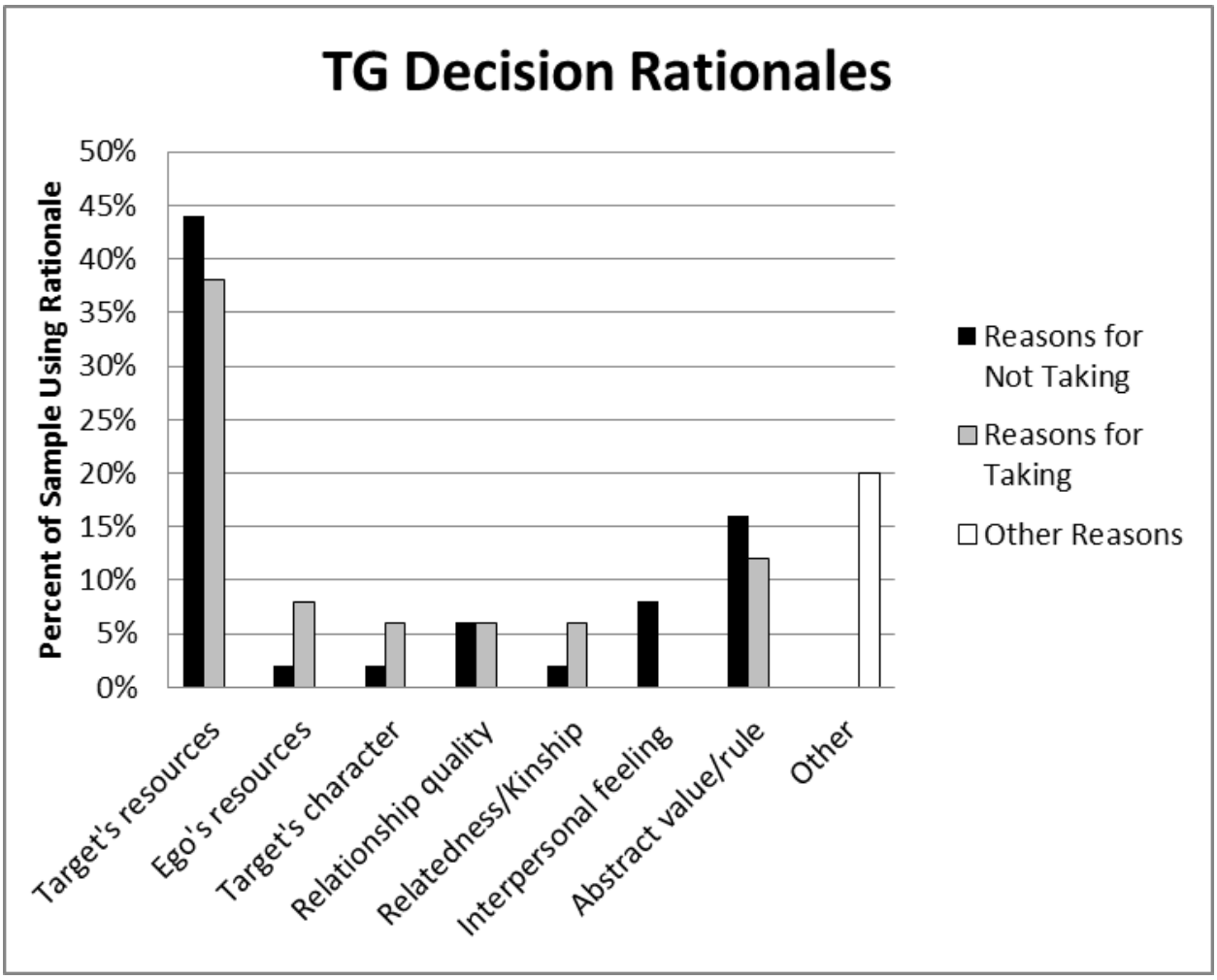
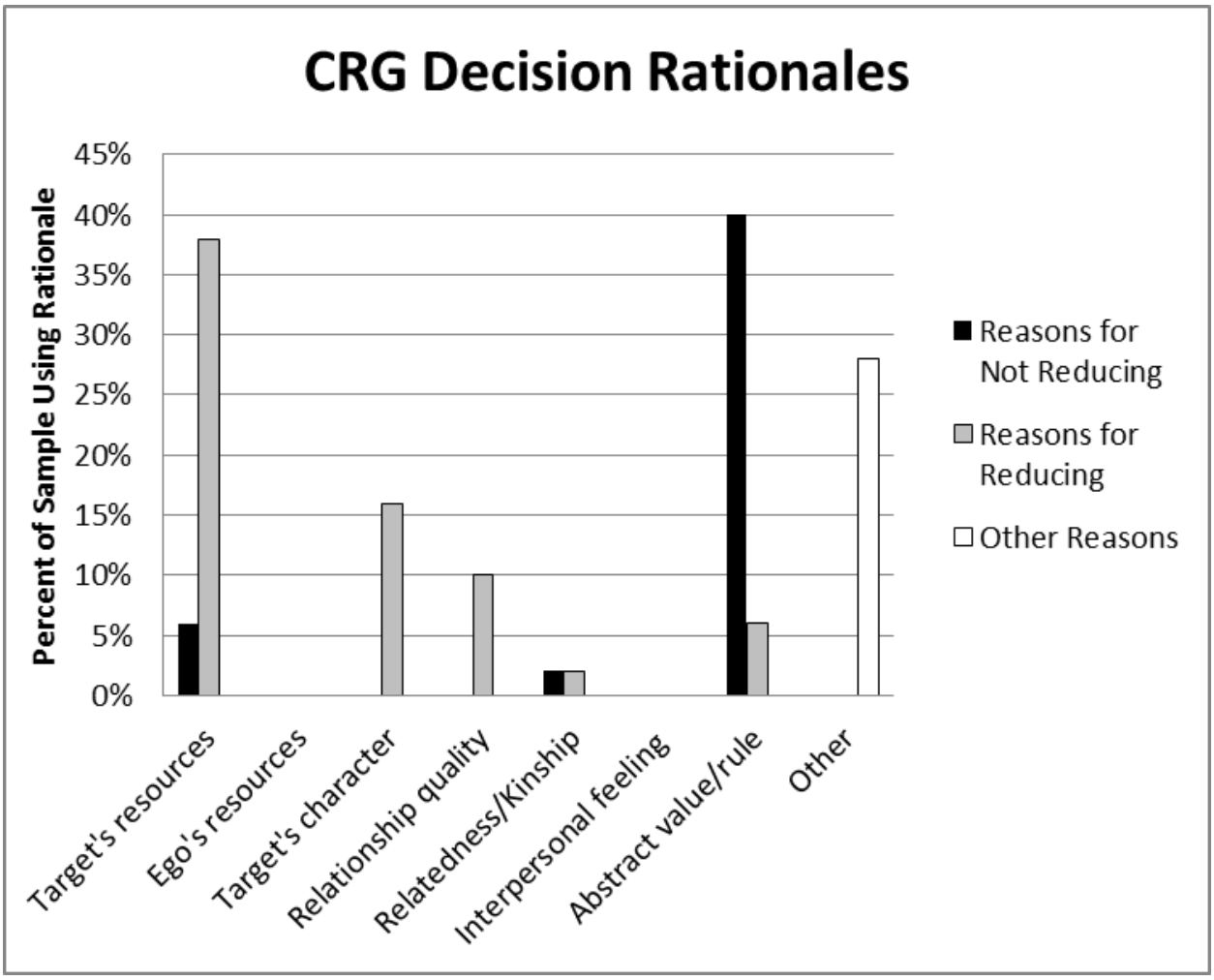
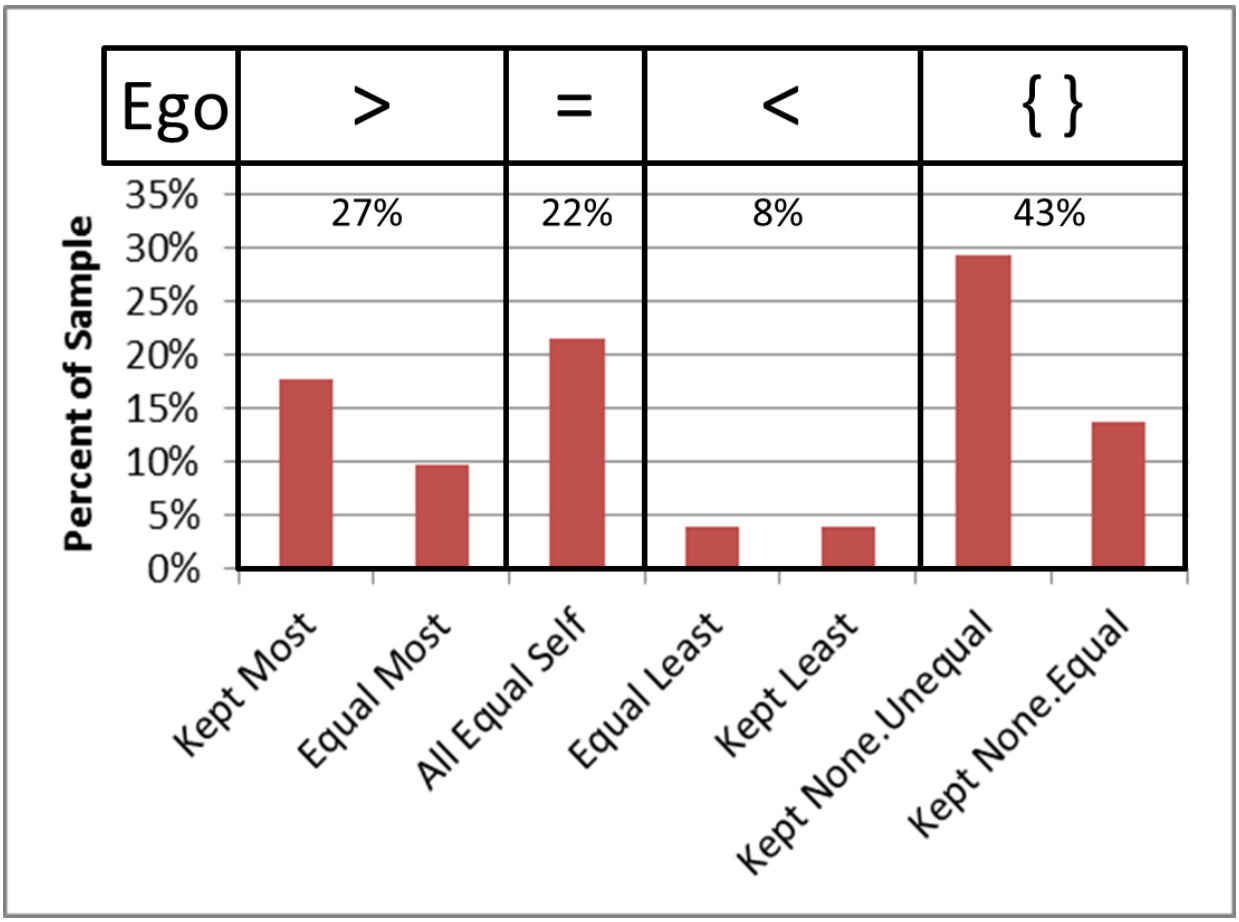


Figure 3.22 Bar chart comparing reported reasons for decisions in Costly Reduction Game



3.23 Histogram of relative keep in the Allocation Game collapsed across allocation sizes



TABLES

Table 1.01 Eight features of "contempt"

Eight features of "contempt"	Supporting References
1. Intentional, or about an object	Hutcherson & Gross (2011); Mason (2003)
2. An enduring evaluation of a person, anchored by character attributions	Fischer & Roseman (2007); Hutcherson & Gross (2011)
3. Follows from cues to another's low relational value, such as norm violations, incompetence, personal transgressions, and out-group position	Rozin et al. (1999); Laham et al. (2010); Hutcherson & Gross (2011); Caprariello et al. (2009); Fischer & Roseman (2007)
4. Entails loss of respect and status diminution	Haidt (2003); Sternberg (2003); Miller (1997); Hutcherson & Gross (2011)
5. Creates "cold" indifference through diminished interest and muted prosocial emotions	Izard (1977); Sternberg (2003); Rozin (1999); Haidt (2003); Debreuil (2010)
6. Leads to intolerance, exclusion, and relationship dissolution	Fischer & Roseman (2007); Mackie et al. (2000); Gottman & Levenson (2000)
7. Associated with "anger" and "disgust," which are among the proximate causes, concomitants, and outcomes of "contempt"	Alvarado & Jameson (1996); Frijda et al., (1989); Rozin et al., (1999); Shaver et al., (1987); Smith & Ellsworth, (1985); Ekman et al., (1987); Storm & Storm (1987); Fischer & Roseman (2007); Hutcherson & Gross (2011); Laham et al. (2010); Mackie et al. (2000); Marzillier & Davey (2004)
8. Can be expressed in many ways, including non-facial modalities	Alvarado & Jameson (1996); Rozin et al. (1994); Ekman et al. (1987); Wagner (2000); Ekman & Friesen (1986); Matsumoto & Ekman (2004); Izard and Haynes (1988); Darwin (1872); various ethnographic accounts (see pp. 72)

These eight features of "contempt" are best understood as the causes, concomitants, and emotional and behavioral outcomes of an attitude of no respect. Variation in the meaning of "contempt" is due to these features being differentially emphasized in individuals or cultures through a number of socio-ecological, cultural, and life-history processes.

Table 2.01 24 attitude targets from Attitude Targets Interview in Study 1

	English	Fijian
1	God	*Kalou*
2	Chief	*Turaga*
3	Pastor	*Talatala*
4	Parallel cousin	*Veitatacini*
5	Cross-cousin	*Tavale*
6	Child	*Driadria*
7	Fiji's best rugby player	*Tamata dau qito I Viti*
8	Industrious person	*Tamata mamakutu*
9	Wise person	*Tamata vuku*
10	Crippled person	*Ilokiloki*
11	Infertile person	*Sega ni vakaluveni*
12	Incompetent person	*Ulumalumalumu*
13	Crazy person	*Tamata lialia*
14	Weird person	*Tamata vecalati*
15	Thief	*Daubutako*
16	Liar	*Tamata lasulasu*
17	Selfish person	*Tamata buroburogo*
18	Lazy peson	*Tamata vucesa*
19	Disrespectful person	*Dokadokai koya*
20	Disloyal person	*Tamata Liumuri*
21	Indo-Fijian	*Kaidia*
22	Enemy	*Meca*
23	Visitor	*Tamata vulagi*
24	Ancestor spirits	*Kalou Vu*

Table 2.02 41 emotion scenarios from Emotion Scenarios 1 interview in Study 1

		English	**Fijian**
#	**Target Emotion**	**How would you feel if…**	***E na vakacava beka na vakarau ni lomamu, kevaka…***
1	anger	…a stranger stole and ate one of your chickens?	*…a dua na vulagi a butakoca ka kania e dua vei ira na nomu toa?*
2	anger	…one of your close relatives burned your garden?	*….dua vei ira na wekamu voleka a vakama na nomui teitei?*
3	sadness	…someone you loved were gravely injured in a storm?	*…dua na namui tokani o daulomana a mavoa ena dua na cava?*
4	sadness	…someone stole your daulomani?	*…dua a butakoca na nomu daulomani?*
5	happiness	…your child got the highest exam score in his/her class?	*…a rawata na maka levu na luvemu ena nona kalasi?*
6	happiness	…you won $1000 for texting the right answer to Voda Star?	*…o ni winitaka e $1000 na dola ena nomuni sauma donu na taro ni voda star?*
7	happy	… the village women were satisfied with the condition of your house during their Monday inspection?	*…era yalo vakacegu na marama ena koro enai tuvaki ni nomuni vale ena siga moniti na siga ni rai koro?*
8	fear	…a hurricane blew the roof off your house in the middle of the night?	*…a dua na cagilaba a vukataka na nomu doka ni vale ena lomaloma ni bogi?*
9	fear	…your boat capsized in stormy seas?	*...a vakatoboicu na nomu waqa ena dua na cava ni waitui titobu?*
10	disgust	…you were chasing a chicken for lunch and you fall into a septic tank?	*…a vakacemuria e dua na toa mei vakasigalevu ka o qai lutu ena dua na qara ni vale lailai?*
11	disgust	…you saw two men, married to each other, holding hands in the street?	*…iko raica e rua na tagane, rau vakawati vata, ka rau taubale veitauri liga vata tu e gauniusala?*
12	pride	…Yasawa won the B-Division Rugby Championship?	*…a qaqa o Yasawa ena fainala levu ni B-Division?*
13	pride	…the elder's spoke highly of you at a community meeting?	*…a vosa vakalavelaveti iko o ira na qase ni koro ena bose vakoro?*
14	guilt	…you were caught stealing tavioka from someone else's garden?	*…o ni tobo ena butako tavioka enai teitei nei dua tale na turaga?*
15	guilt	…you chopped someone's leg at a community work project?	*…iko taya na yavai dua ena gauna ni tari?*
16	surprise	…you were in Lautoka and found a large amount of money?	*… iko a lako I Lautoka ka qai o raica edua nai uma I lavo levu?*
17	surprise	…you were reading and a chicken suddenly jumped through the window onto you?	*…o ni a wilivola tiko beka qai vakasauri na nona lade mai na katuba leka e dua na toa?*
18	disappointed	…Fiji lost in the finals of the Rugby World Cup?	*…ena lusi nei Viti ena fainala ni qito levu ni valataki vanua ena rakavi e vuravura?*
19	disappointed	…someone promised to buy you a DVD player for your birthday but they lied?	*…a dua a yalataka me volia vei iko na misini ni sara I yaloyalo ena nomu siga ni sucu qai lasutaki iko?*
20	disappointed	…your friend got caught stealing alcohol from the nurse?	*…na nomui tau a tobo mamaca ena nona butakoca na siviriti mai vei nasi?*

21	disappointed	…your best friend betrayed a secret?	*…na nomui tau voleka a liumuritaki iko enai tukutuku ka dodonu me drau kila vata ga?*
22	annoyed	…a stranger from a nearby village came by and flogged your dog for no reason?	*… a dua na vulagi mai na dua ga na koro vaka-viti toka voleka lako 'voli mai ka mani mokuta na nomu koli sega na kenai balebale?*
23	annoyed	…someone asked for everything they saw?	*…e dua e kerea na ka kecega e raica?*
24	gratitude	…someone planted all of the unplanted cassava in your garden?	*…edua a tea kece na veibuke ni tavioka koya era sa bera ni teivaki tu ena nomui teitei?*
25	gratitude	…all of the Bouwaqa people on the mainland bought a boat for the village?	*...era a volia na lewe ni koro o Bouwaqa mai Viti Levu e dua na waqa vei ira e na koro?*
26	elevation	…you saw a stranger run into a burning house to save someone else's child?	*…iko raica e dua na vulagi a cici ena dua na vale sa kama tu me vukea na luvei dua tale na tamata?*
27	elevation	…you saw someone stop their work to help an old woman carry firewood across the bridge?	*… iko raica e dua me tarova na nona cakacaka me vukea na marama qase ena nona saga me takosotaka na buka enai kawakawa?*
28	admiration:	…you saw someone catch a stingray as wide as a man is tall?	*…iko raica e dua a vana mai e dua na vai na kena raba e tautauvata kei na balavu ni dua na tagane?*
29	admiration	…someone came to the village and you saw them make mats in all of the different styles from around Fiji?	*…e dua a lako mai na koro ka oni raica ni talia tiko na veimataqali ibe duidui ena veiyasai Viti?*
30	shame	…your tavale picked you up and threw you into the ocean?	*…na nomu tavale a keveti iko qai viritaki iko I waitui?*
31	shame	…there were visitors in the hall and you accidentally knocked over the tanoa?	*…era a tiko na vulagi ena vale vakoro ka qai o caqeta na tanoa?*
32	shame	…the elders spoke badly of you at a village meeting?	*…era vosa vosa vakacataki iko qase ni koro ena dua na bose vakoro?*
33	shame	…your child failed his/her class exam?	*…na nomu gone e sega ni pasitaka na veitarogi ena nona kalasi?*
34	*schadenfreude*	…you saw someone you do not like trip and drop their firewood into the creek?	*…iko raica e dua iko sega ni dau taleitaka a tarabe ka mani vakalutuma na nona buka e wai?*
35	envy	…someone you do not like were the first person in Teci to have internet on their phone?	*…edua iko sega ni dau taleitaka ka I matai ni tamata e Teci me tiko na internet ena nona talivoni?*
36	outrage	…someone swore at a village elder in your presence?	*…dua e vosacataka e dua vei ira na qase ni koro e matamu?*
37	outrage	…someone entered your house with a hat on his head?	*…edua e curu mai ena loma ni vale ka dara tu ga nai sala e uluna?*
38	outrage	…someone took something from a shelf above your head without asking or saying "tilou"?	*…edua a tara e dua na ka ena droa ka sega ni bau vakatilou ni oni tabe tiko e ra?*
39	outrage	…someone were caught making homebrewed alcohol in the village?	*…a dua e tobo ena nona vakasaqa uburu e loma ni koro?*
40	outrage	…someone called out to others from across the village?	*…e dua kaci bale mai na dua na mua ni koro ki na dua na tai ni koro?*
41	outrage	…someone came to the village but did not perform a sevusevu?	*…dua a lako tu ga mai ena loma ni koro ka mani sega ni cakava na nonai sevusevu?*

Table 2.03 32 emotion scenarios from Emotion Scenarios 2 interview in Study 1

		English	Fijian
#	**Target Emotion**	**How would you feel if…**	***E na vakacava beka na vakarau ni lomamu, kevaka…***
42	pain	…you were tending a fire and got a large burn on your leg?	*...iko a kawaitaka na kama ka qai kama sara vakalevu na yavamu?*
43	pleasure	…you were receiving a back massage from the best massuese in the village?	*...iko a ciqoma e dua nai veibobo mai vua na dau ni veibobo ena loma ni koro?*
44	joy	…you were drinking and signing and dancing at a village soli?	*...iko a gunu ka laga sere kei na taralala ena soli vakoro?*
45	mirth	…someone told you a great joke?	*...e dua talanoataka vei iko e dua nai talanoa lasa?*
46	contentment	…you finished all your work for a feast and you just ate a delicious meal?	*...o vakaotia kece na nomu cakacaka me baleta na magiti ka kania na kakana vinaka?*
47	interest	…saw someone performing a [farming technique/cooking technique] that you do not know?	*...mo raica e dua e kitaka e [walewale ni teitei/walewale ni vakasaqa] koya iko sega ni kila?*
48	respect (D)	…the police came to the village after the school was vandalized and they came to your home to ask you questions?	*...a lako mai na ovisa ena koro ena kena a vakacacani na koronivuli ka ratou lako mai ena nomu vale metarogi eso na taro?*
49	respect (P)	…the best [rugy player/mat weaver] in Fiji came to the village and you were listening to them tell stories?	*...na dau [qito rakavi/ tali ibe] ni Viti lako mai ena koro ka qai o vakarorogo tu ena gauna e talanoa tiko kina?*
50	pride (D)	…you obtained a high officer position in the military and had influence over military actions?	*...iko a taura e dua nai tutu levu ena mataivalu ka kaukauwa sara na kena caka na vakatulewa?*
51	pride (P)	…you were the first person in the village to come up with [a beautiful new mat style/an effective new farming technique]?	*...iko na matai ni tamata ena koro mo cakava mai na [na loga rairai vinaka ka duatani na kenai cakacaka/ dua nai walewale ni teitei vou?*
52	guilt	…you borrowed someone's cherished item and forgot to return it to them before they left the island for the indefinite future?	*...iko kerea na nonai yaya vakamareqeti e dua ka o qai guilecava mo vakasuka ni ratou biuta na yanuyanu sega ni kila na gauna era na lesu mai kina.*
53	guilt	…you shared the cherished secret of your best friend?	*...iko vakaraitaka na nomudrau ka vuni kei na nomui tokani dredre?*
54	guilt	…you stole yams from someone's garden during the dry season and no one found out?	*...iko butakoca na uvi mai nai teitei nei dua ena gauna ni vulai mamaca ka sega ni dua e raici iko?*
55	sadness	…a loved one passed away?	*...e dua na wekamu voleka e mate?*
56	sadness	…your partner dumped you?	*...na nomu daulomani e bera-biutaki iko?*
57	despair	…there was a bad drought on Yasawa and both food and water were running out?	*...e yaco e dua na draki mamaca levu ka sega kina na kakana ka maca talega na wai?*
58	surprise	…someone snuck up behind you on a dark night?	*...e dua e vakidacalataki iko ena dua na bogi buto?*
59	disappointed	…you were hoping that your loved ones would be able to come visit from the mainland, but then they were not able to?	*...iko a vakanuinui tiko me ratou na lako mai na wekamu mai Vitilevu, ka qai sega ni ra yaco rawa mai?*

60	disappointed	…Digicel revealed plans to build a cell tower near Teci, but then the project does not happen?	*...e vakaraitaka na nodratoui tuvatuva na Digicel me ratou tara e dua na tower volekati teci, ia ka qai mani sega ni caka nai tuvatuva ya?*
61	irritation	…the mosquitoes swarmed while you were trying to sleep?	*...nai binibini namu era vakayavoliti iko ena gauna o sasaga moce kina?*
62	irritation	…dogs were barking outside your house at night?	*...era vuki kodro na koli ena yasa ni nomu vale e tuba ena bogi?*
63	disgust	…the smell of rotting fish blew into your house during dinner?	*...nai boi ni ika bona e boi mai ena matanivale ena gauna ni vakayakavi?*
64	contempt	…a villager did not participate in community work?	*...e dua na lewe ni koro e sega ni vakaitavi ena cakacaka ni koro?*
65	contempt	…you saw someone burning the Fijian flag?	*...iko raica e dua e sa vakama na kuila ni Viti?*
66	contempt	…a teenager started eating dinner before his parents and their guest?	*...e dua nai tabagone sa tekivu vakayakavi ni se bera ni yaco mai na vulagi sureti?*
67	contempt	…a healthy villager never went to church and didn't pray before meals?	*...na kai nakoro qo e tamata bulabula qai sega ni dau lai lotu ka sega ni masu ni bera na kana?*
68	disgust	…an adult male and his adult sister were in a sexual relationship?	*...e rau veimoceri erua erau veiwekani dina?*
69	disgust	…two teenagers wrote graffiti on a headstone in the chiefly cemetary?	*...e rua nai tabagone e volavola vakaveitalia ena sautabu vakaturaga?*
70	disgust	…an indigenous Fijian and an indo-Fijian were married?	*...e dua nai taukei kei na dua na idia erau vakawati?*
71	outrage	…everyone in the village observed a tabu on a fishing ground except one man, who went fishing there at night?	*...o ira kecega na lewe ni koro e ra vakamuria na tabu ni waitui ka qai vakavo ga e dua, ni'a lako I siwa ekea ena bogi?*
72	outrage	…a drunk man came home and beat his wife?	*...e dua na dau mateni e lako mai vale ka mokuti na watina?*
73	outrage	…someone stole church funds for their own use?	*...e dua e butakoca nai lavo ni lotu me vakayagataka o koya?*

Table 2.04 Most common terms elicited by each interview in Study 1

Free list	Freq	z
kauwai ('concern')	5	3.59
loloma ('affection/pity')	5	3.59
marau ('happy')	5	3.59
cati ('hate')	4	2.59
vinakata ('want')	4	2.59
vuvu ('envy')	4	2.59
cudru ('anger')	3	1.59
lomani ('love')	3	1.59
sega ni taleitaka ('don't like')	3	1.59

Attitude Targets	Freq	z
lomani ('love')	25	4.31
rokovi ('respect')	21	3.5
sevaki ('hate')	17	2.69
sega ni taleitaka ('don't like')	14	2.08
taleitaka ('like')	13	1.87
cati ('hate')	9	1.06
raici ira sobu ('look down on')	9	1.06
raici ira cake ('look up to')	8	0.86

Emotions Scenarios 1 & 2	Freq	avg z
marau ('happy')	148	5.88
rarawa ('upset')	84	3.13
cudru ('anger')	73	2.67
sega ni taleitaka ('don't like')	42	1.65
mosi ('pain')	35	1.13
madua ('shame')	44	1.08
taqaya ('anxiety')	33	0.98
lomaleqa ('worry')	20	0.86

Light gray designates a putative emotion, dark grey designates a putative attitude. Results from the emotion scenarios interviews are shown with aggregate frequencies and average z-scores across the two interviews.

Table 2.05 40 Fijian terms used in the open card sort task in Study 2

Fijian	**English**
Beci	contempt
Borisi	anger; *Yasawan*
Cata	hate
Cudru	anger
Diva	longing
Dokadokai koya	pride
Dokai	respect
Domobula	terror
Domona	desire, lust
Kauwai	concern, interest
Kidacala	surprise
Loloma	affection, pity
Loma bibi	heavy-hearted'
Lomaleqa	worry
Lomalomani koya	self-pity
Lomani	love
Luluvu	saddness
Madua	shame, embarrassment
Malaude	excitement
Marau	happy
Mataku	fear; *Yasawan*
Mosi	pain
Nuiqawaqawa	anxious
Qoroi	admiration, amazed
Qoroi koya vakaikoya	arrogance
Raici koya cake	look up to'
Raici koya sobu	look down on'
Rarawa	upset, inner anger
Reki	joy
Rere	fear
Ririko	apprehensive
Sega ni dokai	no respect
Sega ni kauwai	indifference
Sega ni marau	not happy
Sega ni taleitaka	don't like
Sevaka	hate
Taleitaka	like
Taqaya	anxious
Vakasisila	disgust
Vuvu	envy, jealousy

Table 2.06 20 social scenarios presented within subjects in Study 3

		English	Fijian
#	Scenario	How would you feel…	***E na vakacava sara mada na vakarau ni lomamu…***
1	*Encounter*	…if you see someone you [attitude]?	*...kevaka iko raica e dua iko [attitude]?*
2	*Reunion*	…if someone you [attitude] returns after being away for a long time?	*...kevaka e dua iko [attitude] sa yali tu vakabalavu sa qai basika mai?*
3	*Gift*	…if someone you [attitude] gives you a gift you've always wanted?	*...kevaka e dua iko [attitude] e solia vei iko e dua na nomui loloma o diva sara tikoga?*
4	*Achievement*	…if someone you [attitude] is the first in the village to do something great?	*...kevaka e dua iko [attitude] e cakava e dua na ka cecere ena loma ni koro ena matai ni gauna?*
5	*Prize*	…if someone you [attitude] wins a prize?	*...kevaka e dua iko [attitude] e winitaka e dua nai cocovi?*
6	*Request*	…if somone you [attitude] asks you for help?	*...kevaka e dua iko [attitude] e mai kere veivuke?*
7	*Victimization*	…if someone does something bad to someone you [attitude]?	*...kevaka e dua tale e cakava e dua na ka ca vei koya iko [attitude]?*
8	*Injured*	…if someone you [attitude] is badly injured?	*...kevaka e dua iko [attitude] e sa mavoa levu?*
9	*Sendoff*	…at the sendoff of someone you [attitude]?	*...ena veitalatala vei dua iko [attitude]?*
10	*Death*	…if someone you [attitude] dies?	*...kevaka e dua iko [attitude] e sa mate?*
11	*Disrespect them*	…if your behavior towards someone you [attitude] is not good?	*...kevaka na nomui tovo vua e dua iko [attitude] e sega ni vinaka?*
12	*Hurt them*	…if you hurt someone you [attitude]?	*...kevaka o iko vakamavoataka e dua iko [attitude]?*
13	*They know*	…if someone you [attitude] knows that you did something wrong?	*...kevaka e dua iko [attitude] e kilai ni o cakava e dua na ka cala?*
14	*They bad*	…if someone you [attitude] does something bad in the village?	*...kevaka e dua iko [attitude] e cakava e dua na ka ca ena loma ni koro?*
15	*Spouse*	…if someone you [attitude] socializes with your (spouse/sweetheart)?	*...kevaka e dua iko [attitude] e mai vosa tale tiko vei na (watimu/daulomani)?*
16	*Prank*	…if someone you [attitude] plays a prank on you on a dark night?	*...kevaka e dua iko [attitude] e vakidacalataki iko ena dua na bogi buto?*
17	*Mistake*	…if someone you [attitude] loses one of your precious items?	*...kevaka e dua iko [attitude] e vakayalia e dua na nomui yaya dredre?*
18	*Theft*	…if someone you [attitude] steals one of your precious items?	*...kevaka e dua iko [attitude] e butakoca e dua na nomui yaya dredre?*
19	*Harsh*	…if someone you [attitude] does something harsh to you?	*...kevaka e dua iko [attitude] e cakava e dua nai tovo kaukauwa vei iko?*
20	*Lie*	…if someone you [attitude] lies to you?	*...kevaka e dua iko [attitude] e lasutaki iko?*

Table 3.01 Loadings of 14 target variables on the five factors used to predict target outcomes in the three RICH economic games

Variable	Chiefliness	Elderliness	Hotheadedness	Education	Income
Proportion	56%	23%	9%	9%	6%
Chiefliness	**.93**	.25	.01	-.03	-.08
Good behavior	**.92**	.10	-.17	.03	-.01
Generosity	**.93**	-.04	-.11	.10	.07
Sincerity	**.90**	.18	.04	-.03	.25
Influence	**.84**	.23	.29	-.02	.06
Wisdom	**.77**	.20	.12	**.47**	.06
Diligence	**.67**	-.07	-.02	-.04	.27
Money Trouble	**-.56**	.11	-.14	**-.42**	**-.50**
Age	.27	**.91**	.08	-.11	-.01
Rank in Clan	.29	**.76**	.12	.09	.02
Grip Strength	.06	**-.74**	.33	.12	.14
Hotheadedness	-.10	.05	**.70**	.06	.07
Education	-.02	-.34	.03	**.64**	.07
Income	.10	-.21	.36	.07	**.42**

Table 3.02 Loadings of six attitudes towards targets, aggregated across raters, on the two factors used in mediation analyses of target outcomes

Attitudes	Positive	Negative
Proportion	74.7%	27.7%
Love	**.96**	-.01
Respect	**.95**	.10
Like	**.90**	-.26
Contempt	**-.88**	.31
Hate	**-.65**	**.72**
Fear	.07	**.85**

Table 3.03 Results of univariate regressions predicting target outcomes in each of the three games from each of the five predictors

Outcome	Predictor	Coeff.	SE	*z*	*p*	R^2	AIC
Receiving	Chiefliness	.28	.20	1.39	.164		415.38
(AcG)	Elderliness	.80	.12	6.67	.000		382.36
	Hotheadedness	-.40	.18	-2.23	.026		413.11
	Education	-.40	.22	-1.78	.075		412.63
	Income	-.45	.20	-2.28	.022		413.31
Taken from	Chiefliness	-.39	.15	-2.61	.009	.14	154.24
(TkG)	Elderliness	-.51	.18	-2.81	.005	.21	149.15
	Hotheadedness	.41	.18	2.29	.022	.11	156.00
	Education	.51	.19	2.73	.006	.17	151.96
	Income	.44	.20	2.19	.029	.11	155.91
Reduction	Chiefliness	-.14	.25	-0.57	.572		346.78
(CRG)	Elderliness	.37	.25	1.47	.141		343.78
	Hotheadedness	.48	.22	2.18	.029		339.80
	Education	.63	.19	3.40	.001		335.60
	Income	.76	.14	5.28	.000		325.32

Table 3.04 Results of multivariate regressions predicting target outcomes in each of the three games from all five of predictors together

Outcome	Predictor	Coeff.	SE	*z*	*p*	R^2	AIC
Receiving	Chiefliness	.42	.16	2.65	.008		363.87
(AcG)	Elderliness	.79	.09	8.49	.000		
	Hotheadedness	-.23	.14	-1.71	.088		
	Education	-.37	.14	-2.55	.011		
	Income	-.20	.13	-1.59	.110		
Taken from	Chiefliness	-.40	.11	-3.47	.001	.66	111.53
(TkG)	Elderliness	-.48	.09	-5.12	.000		
	Hotheadedness	.35	.12	3.03	.002		
	Education	.44	.11	3.92	.000		
	Income	.34	.13	2.68	.007		
Reduction	Chiefliness	-.05	.12	-0.42	.672		319.62
(CRG)	Elderliness	.15	.13	1.16	.247		
	Hotheadedness	.21	.16	1.38	.168		
	Education	.40	.14	2.89	.004		
	Income	.66	.13	5.06	.000		

Table 3.05 Results of a multivariate regression predicting aggregate positive attitudes towards targets from all five predictors together

Model	Coeff	SE	z	p	R-squared
Chiefliness	.84	.05	18.63	.000	.92
Elderliness	.43	.04	10.50	.000	
Hotheadedness	.02	.06	0.40	.692	
Education	-.15	.05	-3.16	.002	
Income	-.08	.06	-1.37	.171	

Table 3.06 Results of a multivariate regression predicting aggregate negative attitudes towards targets from all five predictors together

Model	Coeff	SE	z	p	R-squared
Chiefliness	-.17	.09	-1.79	.073	.63
Elderliness	.55	.11	5.21	.000	
Hotheadedness	.41	.10	4.22	.000	
Education	.28	.12	2.37	.018	
Income	.30	.13	2.31	.021	

Table 3.07 Results of multivariate regressions predicting target outcomes in each of the three games from all five predictors controlling for positive attitudes

Outcome	Predictor	Coeff.	SE	*z*	*p*	R^2	AIC
Receiving	Chiefliness	-.75	.26	-2.91	.004		**349.55**
(AcG)	Elderliness	.16	.20	0.81	.419		
	Hotheadedness	-.26	.12	-2.15	.032		
	Education	-.16	.14	-1.11	.265		
	Income	-.14	.11	-1.26	.208		
	Positive Attitudes	**1.38**	**.37**	**3.69**	**.000**		
Taken from	Chiefliness	.46	.27	1.75	.081	.74	**99.77**
(TkG)	Elderliness	-.05	.17	-0.27	.790		
	Hotheadedness	.37	.09	4.21	.000		
	Education	.29	.12	2.44	.015		
	Income	.26	.10	2.46	.014		
	Positive Attitudes	**-1.02**	**.34**	**-3.03**	**.002**		
Reduction	Chiefliness	.69	.34	2.01	.045		**316.10**
(CRG)	Elderliness	.49	.20	2.45	.014		
	Hotheadedness	.25	.15	1.70	.090		
	Education	.25	.12	2.11	.035		
	Income	.58	.14	4.11	.000		
	Positive Attitudes	**-.87**	**.35**	**-2.51**	**.012**		

Table 3.08 Indirect effects mediated by positive attitudes of each of the five predictors on outcomes in each of the three games

Outcome	Predictor	Coeff.	SE	*z*	*p*
Receiving	Chiefliness	1.16	.27	4.23	.000
(AcG)	Elderliness	.59	.15	4.03	.000
	Hotheadedness	.03	.06	0.48	.633
	Education	-.21	.08	-2.64	.008
	Income	-.12	.07	-1.57	.116
Taken from	Chiefliness	-.86	.11	-3.89	.000
(TkG)	Elderliness	-.44	.12	-3.70	.000
	Hotheadedness	-.02	.05	-0.48	.634
	Education	.15	.06	2.54	.011
	Income	.09	.06	1.55	.121
Reduction	Chiefliness	-.73	.30	-2.42	.016
(CRG)	Elderliness	-.37	.16	-2.37	.018
	Hotheadedness	-.02	.04	-0.47	.638
	Education	.13	.07	1.96	.050
	Income	.07	.05	1.39	.166

Table 3.09 Results of multivariate regressions predicting target outcomes in each of the three games from all five predictors controlling for negative attitudes

Outcome	Predictor	Coeff.	SE	*z*	*p*	R^2	AIC
Receiving	Chiefliness	.39	.17	2.25	.025		**365.01**
(AcG)	Elderliness	.87	.15	5.94	.000		
	Hotheadedness	-.17	.19	-0.86	.392		
	Education	-.30	.15	-2.09	.037		
	Income	-.16	.14	-1.13	.258		
	Negative Attitudes	-.17	.20	-.088	.381		
Taken from	Chiefliness	-.33	.11	-3.01	.003	.71	**105.48**
(TkG)	Elderliness	-.70	.10	-6.80	.000		
	Hotheadedness	.19	.11	1.65	.099		
	Education	.33	.11	3.02	.002		
	Income	.22	.11	2.09	.037		
	Negative Attitudes	.40	.12	3.23	.001		
Reduction	Chiefliness	.04	.12	0.33	.738		**316.68**
(CRG)	Elderliness	-.11	.19	-0.60	.551		
	Hotheadedness	.04	.15	0.29	.769		
	Education	.28	.15	1.79	.074		
	Income	.54	.15	3.54	.000		
	Negative Attitudes	.41	.18	2.27	.023		

Table 3.10 Indirect effects mediated by negative attitudes of each of the five predictors on outcomes in each of the three games

Outcome	Predictor	Coeff.	SE	*z*	*p*
Receiving	Chiefliness	.03	.03	.86	.390
(AcG)	Elderliness	-.10	.10	-.93	.351
	Hotheadedness	-.07	.08	-.92	.357
	Education	-.05	.05	-.90	.368
	Income	-.16	.13	-1.19	.236
Taken from	Chiefliness	-.07	.04	-1.71	.087
(TkG)	Elderliness	.22	.08	2.69	.007
	Hotheadedness	.16	.07	2.45	.014
	Education	.11	.05	2.12	.034
	Income	.12	.06	2.10	.035
Reduction	Chiefliness	-.07	.04	-1.53	.125
(CRG)	Elderliness	.22	.10	2.13	.033
	Hotheadedness	.17	.08	2.00	.045
	Education	.11	.06	1.81	.071
	Income	.12	.07	1.80	.072

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