PERCEPTIONS OF PRO-SOCIAL BEHAVIOR:
CULTURE, NORMS, AND RECIPROCITY

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ABSTRACT

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In contemporary cultural research, culture and prosociality have been established as coexisting components within social development. Within these broad elements sits numerous social and psychological factors, specifically the reciprocal exchanges, social norms, and social influence individuals perceive and adopt while integrating within varying cultural belief systems, acting as mechanisms for these beliefs to spread. This research contends that these specified clusters of beliefs, or defined cultural dimensions, and the action of pro-social behaviors are inherently related to such social mechanisms. More specifically, it is argued that cultural beliefs act through social norms and beliefs of reciprocity, emphasizing social context and influence, leading to pro-social behavioral change. Similarly, the extent that an individual participates in reciprocal exchanges promoting prosociality is argued to be a direct component stemming from their perception of culture, further strengthening the acceptance of pro-social behaviors or lack thereof. Through the conducted survey (*N*=182) and subsequent analyses, results were found that both supported and failed to support the proposed hypotheses, establishing the direct and indirect effects of perceived social and reciprocal norms within the relationship between perceptions of culture and prosociality. Further, an inquiry on the current standing of cultural measures and complex definitions of culture is considered. This dialogue addresses the diverse array of cultures around the globe and expands upon the possibilities for future directions within cultural research, emphasizing the need for measurement tools to align with the cultural definition of focus.

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Pro-social behaviors, or actions that benefit others and not solely the self (Eisenberg et al., 2007), are inherently connected to the formation of a culture, developing social connections and community well-being (Frazier & Tupper, 2018; Helliwell & Putnam, 2004; Straubhaar et al., 2017). These behaviors enable communities to grow and perpetuate, facilitating a society's culture or cultures based upon shared beliefs, behaviors, and social norms (Feygina & Henry, 2015; Tylor, 1920). Nevertheless, beliefs and norms that emphasize such actions are not included nor accentuated within all cultural systems (Luria et al., 2015), often preferring behaviors that prioritize the self over the broader community. The reasons for these pro-social actions, or lack thereof, and how they stem from an individual's cultural beliefs have yet to be fully observed, highlighting the numerous other social and psychological components that could mediate and directly affect this relationship. These components—more specifically social norms, social influence, and reciprocity—will be the focus of this research, hypothesized to be the mechanisms that connect culture with pro-social behaviors, or the intention to perform these actions. It will be demonstrated that macro-level cultural beliefs act through these social and psychological components, either directly or indirectly, leading to varying levels of prosociality within an environment.

To examine these relationships, the complex notion of 'culture' will be defined and measured by dividing the varying belief systems composing a culture into dimensions. Specifically, Hofstede's (1984, 2011) dimensions will be used, focusing on shared beliefs of *individualism* and *masculinity*, generally emphasizing actions for self-benefit, and *collectivism* and *femininity*, highlighting community interdependence and cohesion (Hofstede, 1984, 2011;

Hofstede et al., 1998). Using these dimensions will allow the broad array of shared beliefs within national and regional cultures to be distinguished, defining the variance of values held by members within a culture and focusing on individual perceptions of these dimensions. From this focus, the components involved when an individual integrates within such a social structure will be explored—specifically their perceived social norms, reciprocal orientations, and beliefs, theoretically stemming from these cultural dimensions and leading to their subsequent intent to act pro-socially.

It will be demonstrated that the extent to which an individual aligns with the beliefs associated with these dimensions depends on the social and reciprocal norms these dimensions diffuse, leading to varying levels of prosociality. This analysis will test that those who place greater importance on cultural and community cohesion, or more strongly align with collectivism and femininity, will have a higher likelihood of acting on these pro-social norms and accept pro-social behaviors to a greater extent. Conversely, those who align with the cultural beliefs of individualism and masculinity will show the opposite. This hypothesis is based on the contention that the overarching cultural beliefs regarded as 'collectivist' and 'feminine' impose a greater willingness to accept social and reciprocal norms that emphasize social improvement, leading individuals to act with a more pro-social frame. However, individualism and masculinity are hypothesized to emphasize social and reciprocal norms that focus on the self, leading to a lower probability of acting with prosociality.

Understanding Culture as Dimensions

When growing up or becoming a social member within a culture, a crucial task lies in understanding what it means to be a part of it. Such understandings or perceptions are developed through many shared communal values, leading to the overall understanding of the culture a

person finds themselves within. These shared norms and belief-based variables then allow a meta-framework to be constructed, defining how an individual aligns with the beliefs of a culture and how these beliefs shape perceptions of behavior.

Conceptually Defining Culture

Culture is notoriously difficult to define, acting as an umbrella term to describe a society's broad framework and traditions. Conceptually, *culture* can be described as the social norms and behaviors found within a given human society, emphasizing the beliefs, behaviors, and *knowledge* within such dense referent groups (Tylor, 1920). This definition follows an observation of relevant cultural research to recognize how a specific behavior would be categorized within this 'knowledge' and accepted by a population, defining specified cultural dimensions and evaluating how they are perceived and adopted.

Many researchers have attempted to introduce an overarching characterization of culture that applies to the diverse array of populations globally, allowing for a set of quantifiable dimensions (Hall, 1966; Minkov et al., 2013; Tompenaars & Hampden-Turner, 1997). However, the most notable attempt at this is the operationalization of 'culture' through Hofstede's (1980, 1984, 2011) work, proposing five measurable dimensions that concisely portray varying beliefs within a culture. This analysis allowed a culture to be observed on a scale from high to low, corresponding to each dimension. These dimensions are; individualism versus collectivism, masculinity versus femininity, power distance, uncertainty avoidance, and future orientation. Although these five dimensions were initially proposed to observe all cultures and the general traits within them, the present work focuses exclusively on individualism versus collectivism and masculinity versus femininity as they have explicitly correlated with the action and adoption (or lack thereof) of prosociality. These two dimensions, placing culture on scales of high

individualism or collectivism and high masculinity or femininity, have been found to most closely pertain to cultural-wide understandings of pro-social behaviors and the beliefs, attitudes, and norms associated (Berke & Zeichner, 2016; Levant et al., 2003; Luria et al., 2015; Pleck, 1995; Schermerhorn & Harris Bond, 1997).

  Individualism versus collectivism. The first of these dimensions, individualism versus collectivism, measures a culture's positioning on a continuum from individualistic to collectivistic. Cultures higher in *individualism* emphasize individual importance and moral worth compared to the whole. In contrast, a culture placing more significant value on the community's cohesiveness, allocating importance to the society, culture, or social group over the self, would hold a higher level of *collectivism* (Grimes, 1973; Schwartz, 1990). Within a highly individualistic culture, members are expected to take care of themselves, stemming from a loose social framework and a lack of general social support, or the ability to depend on other community members (Hofstede, 1980; 1984; 2011). Individuals in these cultures emphasize personal goals and desires and value social and economic independence, holding that self-interest should be placed above society and that the individual should strive for self-reliance (Grimes, 1973). On the other end of the spectrum lies collectivism, or the preference for a close-knit societal framework to encourage social relationships and well-being, looking after one another, and promoting general social cohesion (Hofstede, 1980, 1984, 2011). High collectivist cultures emphasize common goals and are inherently connected to their social environment, meaning a person within these cultures creates their sense of self via their social context and space, holding social cohesion and interdependence with all other cultural members (Markus & Kitayama, 2010; Schwartz, 1990).

Masculinity versus femininity. The dimension of masculinity versus femininity is the degree to which masculine-associated behaviors predominate within a nation's culture, focusing mainly on attitudes towards success, competition, performance, work over leisure, aggression, and dominant hegemonic male norms (Berke & Zeichner, 2016; Fleming et al., 2014; *Harmful Masculinity and Violence*, 2018; Hofstede, 1980, 1984, 2011; Levant et al., 2003; Luria et al., 2015). These *masculine*-dominated cultures prefer achievements, assertiveness, and materialistic rewards for tasks and day-to-day life, emphasizing competitiveness. Alternatively, cultures with higher *femininity* prefer cooperative lifestyles and an overall understanding of others, ensuring and focusing on improving the quality of life among its population, mainly focusing on overarching consensus among their social relationships (Hofstede, 1980, 1984, 2011). An immediate connection can be observed between individualism versus collectivism and masculinity versus femininity. Many traits associated with individualism are apparent within high-masculinity cultures (Barry, 2015), and collectivism holds similar values to those with higher femininity. This similarity is one that even Hofstede has noted to emphasize the need to not confuse them within measurement (Hofstede et al., 1998).

Interrelationships of Cultural Variables and Pro-Social Behavior

A great deal of academic interest has been placed on juxtaposing these cultural dimensions and a culture's tendency to perform pro-socially or act with the good of the whole in mind (Eisenberg et al., 2007; Feygina & Henry, 2015). This interest stems from the relevance and importance of such actions in our modern world, generating academic attention on studying cohesive social structures and noticing the possible relationships Hofstede's dimensions have with such behaviors. In these studies, negative correlations have been found with the action of pro-social behaviors within both higher individualism societies *and* masculine ones (Luria et al.,

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2015). Societies with a more significant representation of masculinity and a stronger emphasis on individual goals demonstrate fewer pro-social behaviors than societies that emphasize femininity and accentuate community consensus.

Research within organizations worldwide has shown that, regardless of the level of masculinity in the larger culture, organizations with high levels of masculinity versus femininity diminish collectivist traits and have lower levels of pro-social behavior (Berke & Zeichner, 2016; Levant et al., 2003; Pleck, 1995; Schermerhorn & Harris Bond, 1997). However, organizations with higher collectivist and feminist traits show the opposite, establishing a greater likelihood of prosociality (Luria et al., 2015; Schermerhorn & Harris Bond, 1997). These findings support the contention that individuals with a more significant alignment with beliefs of masculinity and individualism do not act pro-socially as often compared to cultures of high collectivism and femininity. This relationship then allows for a more in-depth analysis of an aspect of these cultural dimensions that has not been established in the literature, being the extent to which they may drive perceptions of social norms or expectations for behavior in certain situations and social contexts.

Social Norms, Attitudes, and Salient Beliefs

Social norms are the informal rules that organize and simplify human behavior (Raymond, 2019). These informal rules can be understood as cultural factors or guidelines, such as long-standing traditions, values, and practices, alongside an individual's basic knowledge of what they believe should and should not be done within a particular social group, dense cluster of relationships, or population (Cialdini, 2003; Sherif, 1936).

Social Norms in Society and Culture

In an overarching sense, social norms shape and manage how individuals should act within their society (Scott & Marshall, 2009). On an individual level, social norms help guide a person's behavior, ensuring it conforms to the expectations of desired in-groups—dense focal clusters of relationships—to secure the person's membership within these groups (Tajfel et al., 1971). An individual can be a member of many in-groups, holding the collective attitudes associated with given behaviors for either a specified focal group (Tajfel et al., 1971) or an overarching cultural identity that positions them more broadly within their society or culture (Ennaji, 2005).

Injunctive and descriptive social norms. *Injunctive* and *descriptive* norms focus on the perceptions of the typical and approved actions and reactions of one's focal in-groups (Lapinski & Rimal, 2005). Descriptive norms emphasize the individual's perception (or the observation) of what is *most commonly done* within specific social and group settings (Cialdini et al., 1990). In contrast, injunctive norms stress the perception of what behaviors or beliefs are *approved* or *disapproved* within a given referent group and are more likely to be effective when attempting to change a behavior (Rhodes et al., 2020). Both norms generate perceptions of what should be done and the associated perceptions of such behaviors based upon the given social context or environment. These perceptions shape the individual's understanding of the rules within a society or dense referent group (Carpendale & Lewis, 2010) and guide how they behave. These norms are often specific to each focal group a person might belong to, generating similar beliefs among clusters of individuals that align with a broad cultural identity (Ennaji, 2005). However, these norms contain many group-specific beliefs alongside those that explicitly emphasize the norms held by a person's important referents or others (Sherif, 1936; Shulman et al., 2017).

Subjective social norms. Similarly, *subjective* norms consider social influence (Festinger et al., 1950), emphasizing socially significant others or referents within a social situation (Rivis & Sheeran, 2003). Subjective norms are regarded as the individuals' beliefs towards how much an important referent, such as a person holding a higher class or one that is highly respected and knowledgeable within the referent group, wants them to perform (or not perform) an action (Rivis & Sheeran, 2003). This norm emphasizes conformity, social pressure, and social influence, as studies have often focused on subjective norms concerning the likelihood of an individual performing a behavior because others in their focal referent group are doing it (Baer et al., 1991; Earle et al., 2018; Norman et al., 1998). Some researchers suggest that subjective norms are a subcategory of injunctive norms (Shulman et al., 2017). Although measurements of these constructs show them as distinct (Park & Smith, 2007), it remains to be determined how these constructs are functionally different in behavioral change.

Social Influence through Social Norms

Although social norms are present within an individual's day-to-day life, guiding their actions and beliefs, reinforced by the referent groups they identify with, the question remains as to how and why a norm is acted upon in a specific social context. A model that helps explain this phenomenon is the focus theory of normative conduct, asserting that in situations where several social norms are present at the same time, behavioral action will be dictated by the focal norm; that is, the norm that is made salient and that attention is temporarily most focused on within the present situation, event, or moment (Cialdini et al., 1990; Kallgren et al., 2000). According to this model, the injunctive norm that is most accessible and available about the situation will be what is acted upon. Thus, for example, if someone were to observe others actively picking up garbage, throwing it away, and *not* littering, when a person is given the decision to either litter or

properly dispose of garbage, they would act upon the salient norm of proper disposal according to the focus theory model (Cialdini et al., 1990; Kallgren et al., 2000; Reno et al., 1993).

In contrast, if the salient norm did not assert that littering was something to care about, or if the focal norm approved of littering even though it conflicted with a societal norm emphasizing the need to not litter, individuals would act accordingly—i.e., follow the focal norm and litter (Cialdini et al., 1991). If a norm becomes temporarily salient, that norm is more likely to be acted upon over other norms regarding the same situation, leading to behaviors that emphasize what is approved or not within a group at the time of the event and not what is *most often* perceived to be correct (Berkowitz, 1972; Berkowitz & Daniels, 1964; Cialdini et al., 1991; Gruder et al., 1978; Miller & Grush, 1986; Rutkowski et al., 1983; Schwartz & Fleishman, 1978).

Although it is beneficial to view injunctive and descriptive norms as coexisting, i.e., what is approved by society often directly relates to what is performed, that is not always the case, leading to conflict between broader cultural perceptions and actual actions (Cialdini et al., 1991). According to Cialdini et al. (1991), norms of behavior are often driven by contextual factors and not through deeply rooted beliefs of an event or action in question, leading to a confliction of accessible norms at the time of the event. However, researchers have also noted that norm salience is not always caused by environmental or social context but through their accessibility in recent memory, leading to actions based upon what is *remembered* to be socially approved (Rhodes et al., 2008; Rhodes & Ewoldsen, 2009). Whether through social context, influence, or social memory, norms are acted upon based on their salience at the time of the event. How, then, do individuals maintain these fundamental beliefs or memories towards specific norms and actions?

Salient Beliefs as a Vehicle for Behavioral Acceptance

      Salient beliefs. Much like salient or focal norms, salient beliefs are the most accessible personal beliefs and attitudes that impact and stand behind why a person acts out a given behavior or not (Olson, 1992; Sparkman & Walton, 2017, 2019). These beliefs can be temporarily activated depending on the individual's environment or referent group(s), much like salient norms in focus theory, while also holding the possibility to be fundamental within an individual's social identity (Sparkman & Walton, 2019). For example, the action of proper disposal of trash can be classified as a salient belief, either being acted upon because of its temporary salience at the time of the event or because the individual inherently believes that picking up trash is good for the overall health of the community and local ecology.

      Salient barriers. Conversely, when viewing the inability to act on specific behaviors, the salience of these beliefs can become salient *barriers* within an individual. These salient barriers prevent the action of specific behaviors—either temporarily, activated through a referent group or environmental cues, or permanently, being a fundamental part of an individual's social identity (Sparkman & Walton, 2017, 2019). Whether in support or against a behavior, salient beliefs are strengthened by an individual's dense relational and societal norms. Thus, it is hypothesized that these norms and beliefs, and their subsequent salience, stem from an individual's cultural orientation, with culture acting as a separate overarching component.

      Although some past research has combined these two fields when observing the likelihood of behaviors, looking solely at social and cultural norms as joint influencers (Gelfand, 2018; National Academies of Sciences, 2018), this study utilizes a contemporary approach— viewing social norms and salient beliefs as subsets within complex cultural systems. By noting the complexity of culture and incorporating its interrelationships with social norms, cultural

dimensions can be observed as a broader framework that nurtures the perceptions and salience of beliefs held through norms. Thus, it is proposed that cultural dimensions, implementing beliefs through social norms, can lead to the ingrained salience of norms and beliefs that support prosociality.

Pro-Social Behaviors

Pro-social behaviors are actions performed to benefit others through actions like volunteering, positive behavior reciprocation, and sharing mental and physical resources (Brief & Motowidlo, 1986; Eisenberg et al., 2007; Schwartz, 1990; Snyder & Dwyer, 2012). These behaviors introduce outcomes that provide better living conditions, psychological standings, and physical environments for all included (Frazier & Tupper, 2018; Helliwell & Putnam, 2004; Straubhaar et al., 2017). With a conceptualization of pro-social behaviors, numerous similarities can be noted between cultures high in collectivism and femininity, emphasizing the want for a more cohesive social structure (Hofstede, 2011; Hofstede et al., 1998; Luria et al., 2015). Further, culture has continuously depended on pro-social behaviors to develop and perpetuate, leading to the growth of cultures around different levels of prosociality (Feygina & Henry, 2015). Thus, these differences have generated dynamic and complex dimensions for each culture globally. This variance, then, turns away from mere similarities and establishes a connection between culture and pro-social behaviors—one that observes culture as a complex system, holding subsets of varying social norms, leading to the action of pro-social behaviors.

Although pro-social behaviors relate to the cultural traits associated with high collectivism and femininity and even predict if and when they will be acted upon (Luria et al., 2015), these dimensions do not directly facilitate their intent or action. Instead, cultures high in collectivism and femininity facilitate pro-social action through normative and reciprocal

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components, depending on the strength of these dimensions, acting as mediators to pro-social intention and acceptance. From these cultural dimensions comes varying social norms and beliefs of *reciprocity*, acting as mechanisms or mediators for prosociality.

The Facilitation of Pro-Social Behaviors Through Reciprocity

Pro-social behaviors are performed for various reasons, building from pre-held beliefs, and the alignment of what makes specific actions 'pro-social' depends on the individual in question. As noted, these beliefs are built by an individual's dense referent groups and society-wide norms towards a specific behavior, hypothesized to stem from the cultural dimensions reinforcing them. Furthermore, for a person to believe an action is pro-social or behave in such a way, they must either be motivated by altruism—the overarching moral concern for others' well-being and happiness (Teske, 2009)—or through the concept of *reciprocity*, the latter being the most common and widely accepted predictor of pro-social behaviors (Sloan, 2015).

Reciprocity, most broadly defined as an interchange or exchange between two or more individuals with approximately equal benefit (Lewis, 2015), directly corresponds with the action of pro-social behaviors, often performed for both future community and personal benefit (Simpson & Willer, 2008). These reciprocal actions promote the continued advancement of a community or culture, establishing cohesion and interdependence, most often reciprocated through prosociality (Lewis, 2015; Putnam, 2000). Thus, it is argued that reciprocity acts as a vital component within the relationships between cultural dimensions, social norms, and the performance of pro-social behaviors. Further, this concept and its connections to the broader research can be understood in several ways, the first being direct or specific reciprocity and generalized or indirect reciprocity.

Direct and indirect reciprocity. Direct reciprocity holds the notion that reciprocal actions should be performed directly to the individual who initially performed the behavior

(Putnam, 2000), i.e., if person *a* lends person *b* money, that money should be paid directly back to person *a*, or the one who initially extended the loan. In contrast, generalized or indirect reciprocity is the view that a reciprocal action does not have to be performed directly back to the original individual if it is 'paid forward' (Putnam, 2000). For example, if person *a* were to lend person *b* money, that money does not have to be paid directly back to person *a*, but the favor should be extended to another within both person *a* and person *b*'s community. Indirect reciprocity stands on supporting the community, giving to others to close the reciprocal 'loop.' Direct reciprocal behaviors, however, emphasize actions that lead to direct personal gain, theoretically linking it to the descriptions of those high in individualism.

These indirect reciprocal behaviors reinforce overall cohesion and interdependence, thus strengthening the community and referent group (Putnam, 2000), linking it to those within cultures of high collectivism. Similarly, indirect reciprocity can be a precursor to pro-social actions as the exchanges occur out of prosociality, establishing strong relationships and strengthening the broader community (Gouldner, 1960; Lewis, 2015; Putnam, 2000). Much like the observations of culture as individualist versus collectivist and masculine versus feminine within the present research, past sociological studies have compared reciprocity and pro-social behaviors to a culture's composition of egoists or altruists (Simpson & Willer, 2008). Like individualism and masculinity, cultures or communities composed primarily of *egoists* focus on personal gain, acting mainly on direct reciprocity. In contrast, corresponding to cultures high in collectivism and femininity, cultures composed of *altruists* highlight indirect reciprocity, focusing on the betterment of others (Simpson & Willer, 2008).

Norms of reciprocity. With these reciprocal understandings connecting the ideas of reciprocity to individualism versus collectivism on a broader scale, reciprocity can also be

examined through the *norm of reciprocity* on a cross-cultural basis. This norm emphasizes that within behaviors directed to others, the individual must directly or indirectly be reciprocated for said action, a reciprocation based upon one's perception of fairness (Eisenberg et al., 2007; Whatley et al., 1999). Other norms held by the individual often build this perception of fairness, usually developing from their understanding and level of gratitude, empathy, and goodwill. These understandings are often based upon their dense focal referent groups and their society's (or culture's) broader social norms—leading to their overall understanding of what pro-social is and what it is not within their culture and to reciprocal exchanges involving these varying degrees of prosociality.

　　　Positive and negative reciprocity. Norms of reciprocity can then be split into two diverging subsets: positive and negative reciprocity, both showing similarities with direct reciprocity. Acting with positive reciprocity asserts that if one individual performs an action with a positive effect or outcome, that person should be repaid with an action that is of equal or nearly equal positive value (Caliendo et al., 2010; Suranovic, 2001b). Such behaviors can be contextually understood with the example of a waitron getting a better tip because they were kind to their guests (Tidd & Lockard, 1978). Conversely, acting with negative reciprocity asserts that if an individual performed an action on another that has a negative effect, relating to their perceptions of fairness, it would be reciprocated with an action of approximately equal negative impact (Caliendo et al., 2010; Suranovic, 2001a). This action can be understood as an individual seeking out revenge for a particularly harmful action, such as giving a bad tip to a particularly rude server or thinking in terms of 'eye for an eye.'

　　　These negative reciprocal behaviors are not always harmful in their effect, as both positive and negative reciprocity must be present for a community to function correctly. Based

upon the just-world theory, individuals believe that actions are deserving and generally *just*, leading an individual to act with positive reciprocity in response to positive actions and negative reciprocity towards negative ones, justifying or balancing the world around them (Dalbert, 2009; Lerner, 1980). Similarly, while positive reciprocal exchanges emphasize prosociality, general well-being, and cohesion—negative reciprocity imposes normative regulation and justification that you 'reap what you sow,' such as legal punishment for an unlawful action (Caliendo et al., 2010; Suranovic, 2001a). However, stronger beliefs of negative reciprocity over positive reciprocity, or returning an adverse action with a more significant retaliation—such as physically assaulting a server for unsatisfactory service—can lead to a dissipation of social norms (Chen et al., 2009).

Vegetarianism as a Pro-Social Behavior

Vegetarianism is a behavior that, to many, has pro-social elements to it, often not only being a new behavior to be adopted but a self-identity to take on (Ruby, 2012). Likewise, vegetarian identities and actions have been linked to a greater probability of performing pro-socially in other contexts (Lamy et al., 2019). At its core, the overarching behaviors represented as 'vegetarian' are not eating red meat, poultry, or fish (Ruby, 2012). Although this definition varies among scholars and practitioners, vegetarians hold a vast array of shared beliefs about why it is practiced and initially accepted (Weinsier, 2000). These beliefs often include ethical concerns for animals stemming from an emphasis on our social and environmental relationships to them and a chance to make real environmental impacts (Beardsworth & Keil, 1991, 1992; Fox & Ward, 2008; Ruby, 2012), both being pro-social reasonings. However, vegetarianism can also be adopted merely by the want to improve personal well-being and health (Ruby, 2012), straying away from prosociality.

When attempting to adopt this behavior, there are many social and mental barriers for the individual, as vegetarianism has been negatively viewed throughout history, subsequently pushing potential new adopters away from embracing a vegetarian lifestyle (Kellman, 2000). In the 1980s, polls portrayed that being a vegetarian was perceptually linked to pacifism and hypochondriac tendencies in the public's eye, while those who ate meat were viewed as more patriotic and held stronger masculine traits (Burroughs & Sadalla, 1986; Ruby, 2012). Vegetarianism has recently, relatively speaking, been related to more positive traits, showcasing a link between perceptions of vegetarians with progressive beliefs and more feminine ideologies, associating the variables of high collectivism and femininity with pro-vegetarianism (Chin et al., 2002). However, even if viewed positively, barriers are still present in society. These barriers include beliefs such as an overall enjoyment of meat, that changing one's eating habits is not possible, that humans are made to eat meat, that vegetarian diets are hard to follow, and general focal referent group social norms and cultural customs, preventing widespread adoption of a vegetarian lifestyle (Lea & Worsley, 2003; Ruby, 2012; Worsley & Skrzypiec, 1998).

In theory, vegetarianism fits within the category of 'pro-social behavior,' as many beliefs about its action are widely linked to creating a more cohesive community-wide ethical lifestyle (Gale et al., 2007; Ruby, 2012). As vegetarianism is not only a cluster of beliefs and behaviors but a portion of self-identity for many practitioners, the pro-social components are often inherently integrated within their way of life. Vegetarians have been found to hold greater empathy towards other beings and a more significant concern for our planet's future and its species (Ruby, 2012). Moreover, vegetarianism has been linked to a more substantial acceptance of government redistribution of income and employment within local governments, education systems, or charitable organizations (Gale et al., 2007), all defined as pro-social beliefs or

actions. Leaning towards collectivism and femininity, vegetarianism is associated with many of the same beliefs and perceptions, such as wanting to help the whole or being part of distinctly collectivist ways of life (Gale et al., 2007). Thus, defining vegetarianism as a measurable pro-social behavior leads to identifying how these behaviors and the associated beliefs are perceived and intended to be accepted—and how cultural dimensions, social norms, and reciprocity play into this equation. Specifically, how is the complexity of culture associated with the mechanisms of belief formation, i.e., social norms and reciprocal behaviors, and how do these interrelationships lead to an openness to adopt pro-social behaviors?

Further Linkages, Connections, and Hypotheses

This research examines the relationships among Hofstede's (1980, 1984, 2011) cultural dimensions of individualism versus collectivism and masculinity versus femininity and people's intention to engage in vegetarianism as a pro-social behavior (Levant et al., 2003; Luria et al., 2015; Schermerhorn & Harris Bond, 1997). The pathways of influence from cultural dimensions to pro-social behavior through social norms and reciprocal beliefs can now be studied from these concepts.

Cultural Dimensions Implemented Through Social Norms

Hofstede's cultural traits are hypothesized to be implemented and perceived via a population's social norms and reciprocal understandings, acting as a vehicle for pro-social behavior understanding. Depending on the salience of the beliefs about these traits among the cultural identity and dense referent group an individual is in, they will have varying levels of understanding and acceptance towards such behaviors (*Cultural Identity Theory*, 2014; Ennaji, 2005), or more deeply rooted salient beliefs either for or against them. This level of salience depends on the cultural dimensions that a referent group associates with, as higher femininity

and collectivism are associated with higher levels of pro-social behaviors (Luria et al., 2015), or a greater salience towards such actions. In contrast, masculinity and individualism show the opposite (Levant et al., 2003; Luria et al., 2015), creating a higher likelihood of salient *barriers* against such behaviors.

This research was designed to understand the connections from cultural dimensions to pro-social behavior through social norms and reciprocity, whether facilitating or impeding pro-social action. Focusing on individuals' membership within dense social groups and their significant referents, salient beliefs and norms are formed, facilitating the level at which individuals accept or do not a specific pro-social behavior through their perception of such social contexts. It is argued that the salience of these beliefs and norms held by the associated referent groups are driven by the strength and alignment of the overarching cultural dimensions in place, acting through social norms and reciprocity. Further, it is hypothesized that if a population was designated as being higher in collectivism or femininity, they would have a stronger emphasis on promoting referent group cohesion and community well-being. Thus, the influence of important referents within their dense group membership would allow a greater acceptance and salience towards new norms, beliefs, and behaviors (Hofstede, 2011; Schwartz, 1990). This social membership within high femininity and collectivist cultures would allow a higher intention of pro-social behaviors, stemming from the social norms and reciprocity that these dimensions diffuse as the close-knit group's values are placed on a higher pedestal for those individuals.

Thus, individuals within a culture that aligns with higher femininity and collectivism should show greater acceptance of pro-social behaviors and have higher positive and indirect reciprocity levels. This claim is not meant to say that *all* those within an entire culture (i.e., everyone in the United States or all individuals in Japan) will hold denser groups and accept pro-

social behaviors more often if they align with collectivism and femininity, as that is not what is being measured. National cultures contain an abundance of complex sub-cultures, filled with individuals who place on the continuum of the defined dimensions at varying points. This research would be unreliable to blanket these dimensions and their findings throughout an entire national culture. Instead, the subsets and nuances of culture present within these broader societies will be measured at an individual level, and relationships will be observed based upon these findings.

If a referent group holds more significant beliefs aligning with collectivism or femininity, this orientation should strengthen the influence of significant referents and the want to be a part of a socially unified group as norms relating to group cohesion and interdependence are salient. Such groups should also emphasize performing actions that ensure positive and socially beneficial reciprocal outcomes, leading to greater community prosociality. Conversely, those in cultures of higher individualism should have a more significant acceptance of negative and direct reciprocity, performing social exchanges with direct benefits or acting out unfavorable social contracts more often than those with positive outcomes. These understandings of reciprocity are based upon the broader social norms perceived by individuals and held by their affiliated referent groups, carrying traits associated with thinking in 'we' or 'me' based upon the overarching cultural dimensions of collectivism or individualism. From these observations, higher traits of collectivism and femininity, acting through the social and reciprocal norms they diffuse, should lead to a greater likelihood of pro-social action and intention.

Primary Hypotheses and Research Questions

Hypothesis 1(a-b). It is hypothesized that (*H1*) cultural dimensions correlate with pro-social behaviors and reciprocity. More specifically, it is theorized that (*H1a*) individuals with

more significant beliefs of collectivism will have a higher acceptance of pro-social behaviors and positive reciprocity than individuals holding more significant beliefs of individualism. Likewise, (*H1b*) individuals with more significant beliefs of femininity will show a higher acceptance of pro-social behaviors and positive reciprocity than individuals holding more masculine traits.

Hypothesis 2(a-b). It is hypothesized that (*H2*) perceived descriptive social norms mediate the relationship between pro-social behaviors and the perceptions of cultural dimensions. Further, (*H2a*) perceived descriptive social norms mediate the relationship between pro-social behaviors and perceptions of femininity, and (*H2b*) perceived descriptive social norms mediate the relationship between pro-social behaviors and perceptions of collectivism.

Further research questions. In reviewing these hypotheses, three research questions were proposed. The first asking (*RQ1*) what normative beliefs were associated with vegetarianism? Next, (*RQ2*) which normative beliefs were most strongly associated with masculinity versus femininity and individualism versus collectivism? Lastly, (*RQ3*) which normative beliefs were most strongly associated with behavior intention for vegetarianism? Although open-ended questions were administered relating to these questions, their complete analysis and discussion will not be included within the present work.

Method

Participants

After gaining IRB approval, 247 adults attending Michigan State University at the time of surveying participated in survey one. Hosted through the SONA system, participants took part in a study on "Culture and Social Norms" and were given .5 SONA credits as compensation. These individuals all held unique IP addresses and participated via their computer or mobile device. On average, participants ($N = 182$) were 20 years old ($M = 20.30$, $SD = 1.49$) and were in their

second to third year of their programs ($M = 2.70$, $SD = 1.21$). The cleaned sample ($N = 182$) included 132 individuals who self-identified as White/Caucasian, 27 as Asian, 13 as Black or African American, five Hispanic or Latino, and five who self-reported as 'Other.'

On average, participants were strongly non-vegetarian when asked if they saw themselves as such on a scale from one, *strongly agree*, to five, *strongly disagree* ($M = 4.57$, $SD = .99$). When asked if they saw themselves becoming a vegetarian in the future, the mean response dropped but was still within moderate disagreement ($M = 3.81$, $SD = 1.37$). Out of the 21 average meals per week, participants reported that they ate roughly eight meat-free meals ($M = 7.95$, $SD = 5.49$) and approximately 13 meals that contained meat ($M = 12.96$, $SD = 5.53$). On a scale from one, *very liberal*, to seven, *very conservative,* participants were moderately liberal to moderate in their political orientations ($M = 3.49$, $SD = 1.58$). The sample included 90 self-reported Democrats, 51 Republicans, 30 Independents or unaffiliates, and 11 who selected 'Other.' Although the variables of political orientation and alignment were not used within the analyses, they were measured for use within future research and included to add contextual backing for the findings.

Measures

Cultural dimensions. Hofstede's (2011) individualism versus collectivism and masculinity versus femininity were measured using the scale created by Stull (1995). This measure consisted of four scales and 20 questions that were randomized for each participant, each scale measuring one of the four cultural dimensions of significance. For individualism and collectivism, questions included '*when I work on group projects, it is important for me to be the leader*' and '*I would always cooperate to keep group harmony,*' respectively. For masculinity and femininity, the scales included questions such as '*people must learn to make their own way in*

this world' and '*my job is only one of many parts of my life.*' The participants were asked to rate these questions on a Likert scale from one (*strongly agree*) to five (*strongly disagree*). As shown in Table 1, all four cultural dimension scales had low reliability (individualism, α = .325; collectivism, α = .268; femininity, α = .140; masculinity, α = .460); thus, these measures were not used within the full analysis.

Norms of reciprocity. Perugini et al.'s (2003) scale for measuring personal norms of reciprocity was used to measure reciprocity among the participants. The scale for general beliefs of reciprocity ('*I avoid being impolite so that others aren't impolite to me*') had low reliability, α = .647 (see Table 1). Conversely, the measurements of norms of positive reciprocity ('*if someone helps me, I am pleased to help them in return*') and negative reciprocity ('*if I am offended by someone, I will offend them back*') had acceptable reliability (positive reciprocity, α = .710; negative reciprocity, α = .749). These three scales consisted of 18 total questions, asked on a five-point scale from *strongly agree* to *strongly disagree*. Participants held supportive beliefs of positive norms of reciprocity (*M* = 1.69, *SD* = .50) and moderate disagreement towards negative norms of reciprocity (*M* = 3.60, *SD* = .74).

Descriptive norms of vegetarianism. Booth et al.'s (2013) descriptive norms measure was used to gather positive and negative descriptive norms of vegetarianism among participants ('*being a vegetarian would help me stay healthy*' or '*there is nothing good about being a vegetarian*'). Participants responded neutrally to both positive (*M* = 3.06, *SD* = .88) and negative (*M* = 3.12, *SD* = .74) descriptive norms of vegetarianism and both measures had high reliability (positive descriptive norms, α = .932; negative descriptive norms, α = .817). The positive descriptive norms scale included 15 questions, and the negative descriptive norms scale included ten, all rated on a scale from one, *strongly agree*, to five, *strongly disagree*.

Referent norms of vegetarianism. Likewise, Booth et al.'s (2013) scale was used to gather participants' positive and negative perceptions of referent beliefs or injunctive norms ('*my parents would think being a vegetarian was a good idea*' or '*becoming a vegetarian would affect my relationships*'). As shown in Table 1, participants were neutral in their responses towards positive normative referent beliefs ($M = 3.12$, $SD = .70$) and moderately disagreed with negative normative referent beliefs ($M = 3.59$, $SD = .90$). The block consisted of four questions regarding negative referent norms and 15 measuring positive referent norms—all on a five-point scale from one (*strongly agree*) to five (*strongly disagree*), and the measures were highly reliable (positive referent norms, $\alpha = .911$; negative referent norms, $\alpha = .721$).

Behavioral intention of vegetarianism. In measuring the participants' behavioral intention to become a vegetarian, Rhodes et al.'s (2019) scale for assessing behavioral intention was modified to include vegetarianism. This block consisted of four questions, initially asked on a scale from one, *not at all*, to five, *very much*, but was reverse coded before analysis to correspond with the other scales (one, *very much*; five, *not at all*). This scale included questions like, '*how likely do you think you will become a vegetarian in the next three months*,' '*six months,*' '*one year,*' and so on. Respondents moderately disagreed with intending to become a vegetarian ($M = 3.60$, $SD = .99$), and the measure was reliable, $\alpha = .829$.

Perceptions of individualism and collectivism. Further, utilizing the cultural context within Stull's (1995) scale, perceptions of culture were measured. The perceptions of individualism and collectivism scales included questions such as '*to what extent do you believe you will be accepted if you acted solely with the good of yourself in mind compared to the whole*' and '*to what extent do you believe you will be accepted if you acted with the good of the whole in mind compared to just yourself.*' Participants showed agreement towards perceptions of

collectivism ($M = 1.92$, $SD = .78$) and were neutral in their responses on perceptions of individualism ($M = 3.01$, $SD = .74$). The block included five questions regarding perceptions of individualism and three measuring perceptions of collectivism. As noted, they were initially asked on a five-point scale, one being *not at all* and five being *very much*, but were reverse coded to be concurrent with the other scales before analysis (one being *very much* and five being *not at all*). Both scales had acceptable reliability (perceptions of individualism, $\alpha = .715$; perceptions of collectivism, $\alpha = .732$).

Demographics. Lastly, a set of 11 questions was presented to assess the participants' demographics, schooling, political affiliation, and if they were vegetarian or not (for a complete list of questions asked, see Appendix). The questions regarding vegetarianism included phrases like, '*I see myself as a vegetarian (e.g., eat no meat but still consume some animal products),*' asked on a five-point scale from one (*strongly agree*) to five (*strongly disagree*), and '*if you did not answer 'strongly agree' above, you see yourself becoming one in the future.*' Similarly, questions were asked about the number of meals eaten per week that contained meat and did not, i.e., being meat-free, with open-ended responses enabled. The respondents were asked to input the number of meals for each question out of 21 average meals eaten per week (three meals— breakfast, lunch, dinner—multiplied by seven days per week). Lastly, questions were administered concerning political affiliation and ideology, asking '*what political orientation do you most identify with*' on a scale from one (*very liberal*) to seven (*very conservative*). Following these measures, questions were asked regarding their gender identity with an open-ended option, ethnicity, age, and year of enrollment.

As noted, the overall survey was internally randomized for each question block and randomized within the overarching survey flow using Qualtrics. The blocks of behavioral

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intention and perceptions of culture, behavioral beliefs and norms of vegetarianism, and referent norms of vegetarianism were randomized together. Similarly, the open-ended question blocks were internally randomized and randomized together. The demographic or general questions were presented at the end of the survey for all participants.

Results

The data were analyzed in IBM SPSS Statistics version 27 with the PROCESS v3.5.3 extension for SPSS (Hayes, 2017). The PROCESS extension was used to test the direct and indirect (mediating) effects of the variables of interest, focusing on the potential mediating roles of social norms in the relationship between cultural perceptions and vegetarianism behavioral intention.

Data Cleaning

Out of the original participants ($N = 247$), non-completes and unrealistic durations were cut, or those that took less than five minutes or more than an hour ($N = 226$). Next, the average variance across three individual question blocks was observed to trim those who responded with unrealistic ($\sigma^2 < .40$, $\sigma^2 > 3.0$) or no variance, leaving 182 participants who were 18-40 years old (68 female, 113 male, one non-binary). For all conducted analyses, the sample size remained unchanged ($N = 182$).

Table 1 *Descriptive statistics and reliability of variables (N=182)*

	α	M	SD
Positive Descriptive Norms	.932	3.06	.88
Positive Reciprocity	.710	1.69	.50
Negative Reciprocity	.749	3.60	.74
Veg. Behavioral Intention	.829	3.60	.99
Perceptions of Individualism	.715	3.01	.74
Perceptions of Collectivism	.732	1.92	.78
Negative Descriptive Norms	.817	3.12	.74
Negative Referent Norms	.721	3.59	.90
Positive Referent Norms	.911	3.12	.70
Individualism	**.325**		
Collectivism	**.268**		
Femininity	**.140**		
Masculinity	**.460**		
Beliefs in Reciprocity	**.647**		

Bolded = Poor reliability in measurement.

(N=182)

Reliability Analysis

All cultural dimensions assessed within the cultural orientation measure had low reliability (see Table 1). To improve reliability, after recoding the collectivism and femininity scales to combine with the individualism and masculinity scales respectively, the same issue was present—masculinity and femininity recoded, $\alpha = -.216$; individualism and collectivism recoded, $\alpha = .147$. In turn, these scales and measures were left out of the complete analysis. Similarly, after trimming questions found to be multi-dimensional or measuring other factors, the scale for beliefs in reciprocity had poor reliability (see Table 1).

After deleting one of the 12 questions measuring positive reciprocity as it was found to be non-correlated with the rest of the scale, measures of participant beliefs of positive and negative reciprocity had acceptable reliability (see Table 1). These measures were kept within the complete analysis. Likewise, the measurements of perceptions of individualism, collectivism, and behavioral intention of vegetarianism all had high reliability. Equally, high reliability was shown in measuring positive and negative descriptive norms of vegetarianism and perceived positive and negative referent (injunctive) norms of vegetarianism. These scales were included within the primary analysis leaving nine total scales to be analyzed (see Table 1).

Primary Statistical Analysis

Table 2 *Correlation matrix of reliable scale variables (N=182)*

Correlations

	Positive Descriptive Norms	Positive Reciprocity	Negative Reciprocity	Vegetarianism Behavioral Intention	Perceptions of Individualism	Perceptions of Collectivism	Negative Descriptive Norms	Negative Referent Norms	Positive Referent Norms
Positive Descriptive Norms	1								
Positive Reciprocity	-.030	1							
Negative Reciprocity	-.112	-.365***	1						
Veg. Behavioral Intention	.640***	-.122	-.110	1					
Perceptions of Individualism	.050	-.149*	.201**	.152*	1				
Perceptions of Collectivism	.125	.421***	-.411***	.087	.018	1			
Negative Descriptive Norms	-.538***	-.089	.337***	-.522***	-.056	-.212**	1		
Negative Referent Norms	-.386***	-.210**	.445***	-.322***	.000	-.256***	.705***	1	
Positive Referent Norms	.785***	-.100	.027	.570***	.111	.083	-.425***	-.329***	1

***. Correlation is significant at the 0.001 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).   (N=182)
*. Correlation is significant at the 0.05 level (2-tailed).

Relevant correlations. A correlation matrix was created (see Table 2) to observe the correlation coefficients of each of the nine variables ($N = 182$). Perceptions of collectivism were found to significantly positively correlate with positive reciprocity, $r = .421$, $p < .0005$, and significantly negatively correlate with negative reciprocity, $r = -.411$, $p < .0005$. This finding supported *H1*, predicting that perceptions of cultural dimensions would correspond with pro-

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social behaviors and reciprocity. More broadly supporting *H1*, perceptions of individualism significantly negatively correlated with positive reciprocity ($r = -.149$, $p < .05$) and significantly positively correlated with negative norms of reciprocity, $r = .201$, $p < .008$. However, contrary to *H1a-b,* or that only collectivism and femininity would correspond to pro-social behaviors, a statistically significant positive correlation between perceptions of individualism and vegetarianism behavioral intention was found, $r = .152$, $p < .05$. In relation to *H2b*, perceptions of collectivism significantly negatively correlated with both negative descriptive norms, $r = -.212$, $p < .005$, and negative norms among referents of vegetarianism, $r = -.256$, $p < .0005$.

To further test the hypotheses and research questions, specifically focusing on the mediating roles of the variables, four mediation models were performed using Model 4 of the PROCESS macro for SPSS (Hayes, 2017). These were used to measure the direct and indirect effects of the scales of interest. All four models produced 95 percent confidence intervals (CIs) for the parameter estimates using a bootstrap sample of 5000. No variables were added as covariates or controls as the variables within the path models were sufficient for analysis.

Table 3 *Significant Indirect Effects from PROCESS Models*

			95% CI	
Variable	*b*	*SE*	Lower Limit	Upper Limit
Perceptions of Collectivism → Negative Descriptive Norms → Vegetarianism Behavioral Intention	.088	(.041)	.019	.180
Perceptions of Collectivism → Positive Norms of Reciprocity → Vegetarianism Behavioral Intention	-.121	(.053)	-.235	-.031
Perceptions of Individualism → Negative Norms of Reciprocity → Vegetarianism Behavioral Intention	-.055	(.030)	-.125	-.009

(N=182)

Figure 1 *PROCESS Mediation Model One:* Individualism and Vegetarianism Intention

MODEL SUMMARY:
$F(5,177) = 32.59, p < .0001, R^2 = .48$

Negative Norms Among Referents
Indirect effect: $b = .000, [-.027, .027]$

Positive Norms Among Referents
Indirect effect: $b = .024, [-.011, .085]$

Perceptions of Individualism

Positive Descriptive Norms of Vegetarianism
Indirect effect: $b = .025, [-.061, .108]$

Negative Descriptive Norms of Vegetarianism
Indirect effect: $b = .023, [-.046, .090]$

Vegetarianism Behavioral Intention

$b = .0004, p = .99$
$b = .1051, p = .14$
$b = .0595, p = .50$
$b = -.0556, p = .46$
$b = .1083, p = .20$
$b = .2287, p = .07$
$b = .1299, p = .08$
$b = .4239**, p < .0005$
$b = -.4211**, p < .0005$

** = statistically significant

Figure 1

Table 4 *PROCESS Model One Path Analysis*

Variable	Perceptions of Individualism			Vegetarianism Behavioral Intention		
	b	β	SE	b	β	SE
Negative Injunctive Norms	.0004	.0003	(.0904)	.1083	.0983	(.0847)
Positive Injunctive Norms	.1051	.1108	(.0702)	.2287	.1622	(.1248)
Positive Descriptive Norms	.0595	.0501	(.0884)	.4239**	.3765	(.1064)
Negative Descriptive Norms	-.0556	-.0557	(.0743)	-.4211**	-.3147	(.1125)
Perceptions of Individualism				.1299	.0972	(.1299)
Constant				2.133***		(.5100)
R^2					.481	

***. Correlation is significant at the 0.001 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).   (N=182)
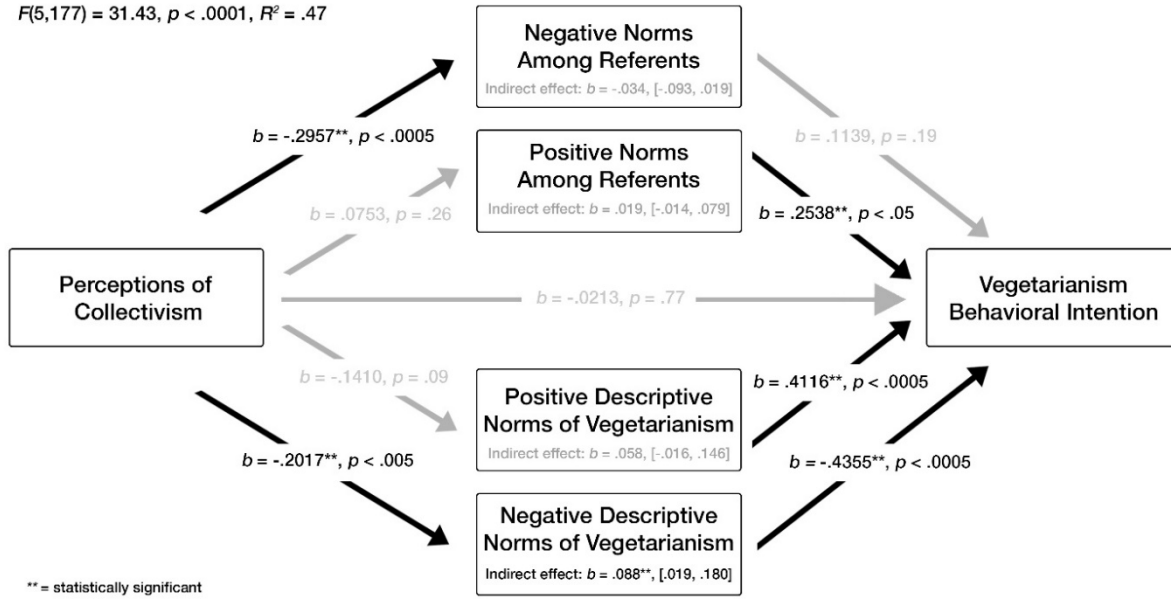*. Correlation is significant at the 0.05 level (2-tailed).

Process mediation model one: individualism and vegetarianism intention. The first

model included examining the direct effects of perceptions of individualism on vegetarianism

behavioral intention, with the proposed mediating variables being positive and negative

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descriptive norms and positive and negative norms among referents (injunctive norms) of

vegetarianism (see Figure 1 and Table 4). This model tested *H2*, or that descriptive and referent

norms would mediate the relationship between culture and the intention to become a vegetarian,

alongside *RQ2* and *RQ3*. The overall model was statistically significant, $F(5,177) = 32.59$, $p <$

.0001, $R^2 = .48$. A statistically significant effect was found between positive descriptive norms

and vegetarianism behavioral intention, such that positive descriptive norms were negatively

related to the intention to become a vegetarian, relating to *RQ3*, $b = .424$, standard error (SE) =

.12, $t = 3.98$, $p < .0005$. Similarly, a significant effect was found between negative descriptive

norms and behavioral intention to become a vegetarian, relating to *RQ3* and showing that

negative descriptive norms negatively relate to intention to become vegetarian, $b = -.421$, SE =

.11, $t = -3.74$, $p < .0005$. However, regarding *RQ2*, the effects of perceptions of individualism on

positive ($p = .14$) and negative ($p = .99$) norms among referents, positive ($p = .50$) and negative

($p = .46$) descriptive norms, and vegetarianism behavioral intention ($p = .08$) had no statistical

significance. Contrary to *H2*, all indirect or mediating effects were non-significant—negative

descriptive norms, $b = .023$, 95 percent confidence interval (CI) = [-.046, .090]; positive

descriptive norms, $b = .025$, [-.061, .108]; negative norms among referents, $b = .000$, [-.027,

.027]; positive norms among referents, $b = .024$, [-.011, .085]. No statistically significant effects

of positive ($p = .07$) or negative ($p = .20$) norms among referents on vegetarianism behavioral

intention were found.

Figure 2 *PROCESS Mediation Model Two:* Collectivism and Vegetarianism Intention

MODEL SUMMARY:
$F(5,177) = 31.43, p < .0001, R^2 = .47$

Negative Norms Among Referents
Indirect effect: $b = -.034, [-.093, .019]$

Positive Norms Among Referents
Indirect effect: $b = .019, [-.014, .079]$

Perceptions of Collectivism

Vegetarianism Behavioral Intention

$b = -.2957**, p < .0005$

$b = .0753, p = .26$

$b = .1139, p = .19$

$b = .2538**, p < .05$

$b = -.0213, p = .77$

$b = -.1410, p = .09$

Positive Descriptive Norms of Vegetarianism
Indirect effect: $b = .058, [-.016, .146]$

$b = .4116**, p < .0005$

$b = -.2017**, p < .005$

$b = -.4355**, p < .0005$

Negative Descriptive Norms of Vegetarianism
Indirect effect: $b = .088**, [.019, .180]$

** = statistically significant

Figure 2

Table 5 *PROCESS Model Two Path Analysis*

Variable	Perceptions of Collectivism			Vegetarianism Behavioral Intention		
	b	*β*	*SE*	*b*	*β*	*SE*
Negative Injunctive Norms	-.2957**	-.2560	(.0832)	.1139	.1034	(.0863)
Positive Injunctive Norms	.0753	.0835	(.0670)	.2538*	.1800	(.1251)
Positive Descriptive Norms	.1410	.1248	(.0836)	.4116**	.3656	(.1071)
Negative Descriptive Norms	-.2017**	-.2121	(.0693)	-.4355**	-.3255	(.1133)
Perceptions of Collectivism				-.0213	-.0167	(.0722)
Constant				2.549***		(.5140)
R^2					.472	

***. Correlation is significant at the 0.001 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

(N=182)

Process mediation model two: collectivism and vegetarianism intention. Model two

observed the relationship between perceptions of collectivism and vegetarianism behavioral

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intention, with positive and negative referent (injunctive) norms and positive and negative descriptive norms being the hypothesized mediators (see Figure 2 and Table 5). This model was created to test *H2* and *H2b*, or that descriptive and referent norms would mediate the relationship between collectivism and behavioral intention, alongside *RQ2* and *RQ3*. The overall model was statistically significant, $F(5,177) = 31.43$, $p < .0001$, $R^2 = .47$. Perceptions of collectivism were found to have statistically significant negative effects on both negative norms among referents ($b = -.296$, SE $= .08$, $t = -3.55$, $p < .0005$) and negative descriptive norms ($b = -.202$, SE $= .07$, $t = -2.91$, $p < .005$) concerning vegetarianism. Regarding *RQ2*, such findings show that perceptions of collectivism negatively relate to both negative descriptive and referent norms of vegetarianism. Similarly, negative descriptive norms of vegetarianism had a statistically significant effect with vegetarianism behavioral intention, regarding *RQ3*, negative descriptive norms negatively related to behavioral intention, $b = -.436$, SE $= .11$, $t = -3.84$, $p < .0005$. Partially supporting *H2b*, a significant indirect or mediating effect was found from negative descriptive norms within the relationship between perceptions of collectivism and behavioral intention, $b = .088$, $[.019, .180]$ (see Table 3). Going against *H2*, all other indirect or mediating effects were statistically non-significant—positive descriptive norms, $b = .058$, $[-.016, .146]$; negative norms among referents, $b = -.034$, $[-.093, .019]$; positive norms among referents, $b = .019$, $[-.014, .079]$.

Although the effects of perceptions of collectivism on both positive descriptive norms ($p = .09$) and positive norms among referents ($p = .26$) were found to have no statistically significant relationships, both variables had statistically significant positive effects on vegetarianism behavioral intention (positive descriptive norms, $b = .412$, SE $= .11$, $t = 3.84$, $p = .0005$; positive norms among referents, $b = .254$, SE $= .13$, $t = 2.03$, $p < .05$). Contrary to *H1*, the

direct effect of perceptions of collectivism on vegetarianism behavioral intention was found to be

statistically non-significant ($p = .77$) alongside the effect of negative norms among referents on

the same outcome variable ($p = .19$).

Figure 3 *PROCESS Mediation Model Three:* Collectivism and Norms of Reciprocity as Mediators

MODEL SUMMARY:
$F(3,178) = 3.38$, $p < .05$, $R^2 = .05$

Positive Norms
of Reciprocity
Indirect effect:
$b = -.121**$, $[-.235, -.031]$

$b = .2711**$, $p < .0005$

$b = -.4458**$, $p < .05$

Perceptions of
Collectivism

$b = .1567$, $p = .15$

Vegetarianism
Behavioral Intention

$b = -.3867**$, $p < .0005$

$b = -.1921$, $p = .09$

Negative Norms
of Reciprocity
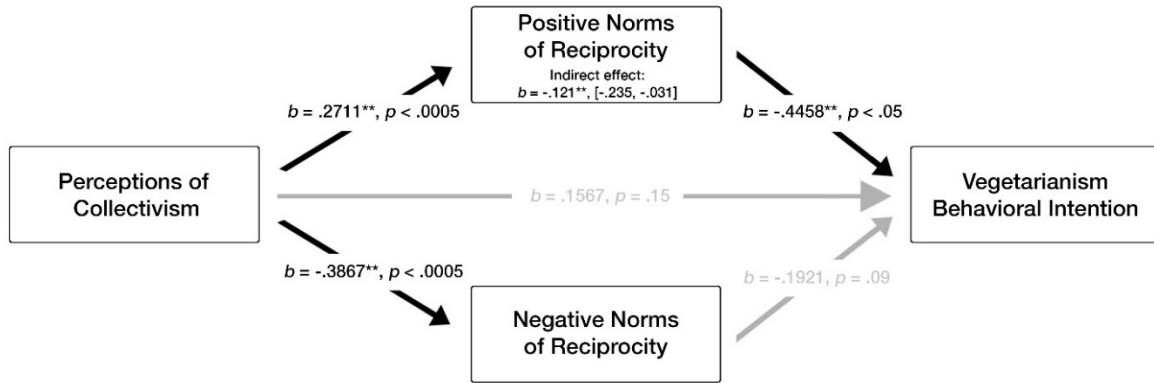
** = statistically significant

Figure 3

Table 6 *PROCESS Model Three Path Analysis*

Variable	Perceptions of Collectivism			Vegetarianism Behavioral Intention		
	b	β	SE	b	β	SE
Positive Norms of Reciprocity	.2711***	.4209	(.0435)	-.4458**	-.2257	(.1633)
Negative Norms of Reciprocity	-.3867***	-.4106	(.0640)	-.1921	-.1421	(.1111)
Perceptions of Collectivism				.1567	.1231	(.1074)
Constant				4.756***		(.5923)
R^2					.054	

***. Correlation is significant at the 0.001 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
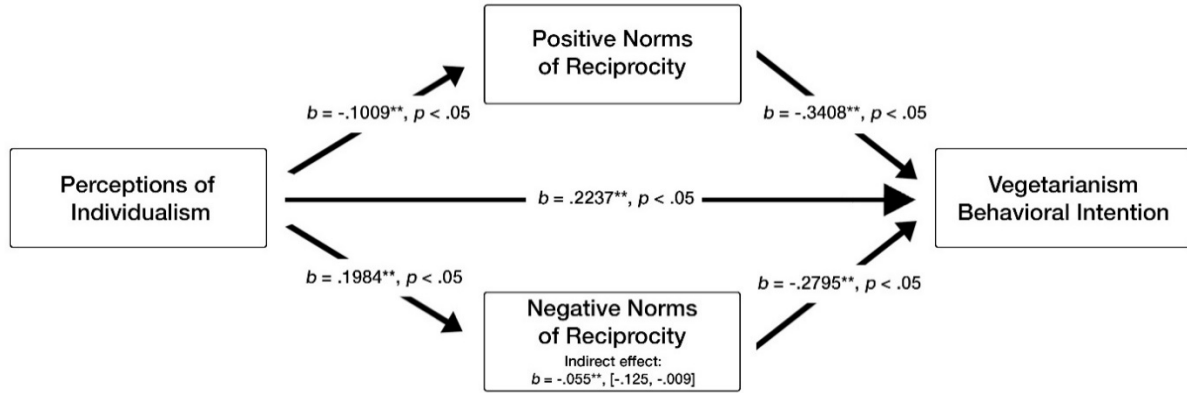*. Correlation is significant at the 0.05 level (2-tailed).

(N=182)

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Figure 4 *PROCESS Mediation Model Four:* Individualism and Norms of Reciprocity as Mediators

MODEL SUMMARY:
$F(3,178) = 4.41, p < .006, R^2 = .07$

Figure 4

** = statistically significant

Table 7 *PROCESS Model Four Path Analysis*

Variable	Perceptions of Individualism			Vegetarianism Behavioral Intention		
	b	β	SE	b	β	SE
Positive Norms of Reciprocity	-.1009*	-.1492	(.0499)	-.3408*	-.1725	(.1540)
Negative Norms of Reciprocity	.1984**	.2006	(.0722)	-.2795**	-.2068	(.1063)
Perceptions of Individualism				.2237*	.1673	(.0990)
Constant				4.521***		(.5964)
R^2					.069	

***. Correlation is significant at the 0.001 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

(N=182)

Models three and four: perceptions of culture and reciprocity. Models three and four

allowed for an observation of the relationships between perceptions of both collectivism (see

Figure 3 and Table 6) and individualism (see Figure 4 and Table 7) on vegetarianism behavioral

intention, with positive and negative norms of reciprocity being the proposed mediating variables. These models tested *H1* and *H1a*, or that cultural dimensions correlate with pro-social behaviors and reciprocity, along with *RQ2* and *RQ3*.

Model three: collectivism and reciprocity. First, in observing model three (see Figure 3 and Table 6), the overall model was found statistically significant, $F(3,178) = 3.38$, $p < .05$, $R^2 = .05$. Perceptions of collectivism were found to have statistically significant effects on both positive ($b = .271$, $SE = .04$, $t = 6.23$, $p < .0005$) and negative ($b = -.387$, $SE = .06$, $t = -6.04$, $p < .0005$) norms of reciprocity. Meaning, in support of *H1* and *H1a*, collectivism is positively related to positive norms of reciprocity and negatively related to negative norms of reciprocity. Contrary to *H1*, there was no statistically significant direct effect between perceptions of collectivism and vegetarianism behavioral intention, $p = .15$. A statistically significant effect was shown between positive norms of reciprocity and vegetarianism behavioral intention, addressing *RQ3* and showing that positive reciprocity negatively relates to behavioral intention, $b = -.446$, $SE = .16$, $t = -2.73$, $p < .05$. Partially supporting *H2b*, positive norms of reciprocity had a statistically significant negative indirect or mediating effect between perceptions of collectivism and vegetarianism behavioral intention, $b = -.121$, $[-.235, -.031]$ (see Table 3). Lastly, no significant effect was found between negative norms of reciprocity and behavioral intention, $p = .09$, and, going against *H2* and *H2b*, no significant indirect effect was found from negative norms of reciprocity, $b = .074$, $[-.009, .173]$.

Model four: individualism and reciprocity. For the final model, model four (see Figure 4 and Table 7), all direct effects and one indirect effect were found to be statistically significant, and the overall model was significant, $F(3,178) = 4.41$, $p < .006$, $R^2 = .07$. More specifically, supporting *H1*, perceptions of individualism held a significant negative effect on

positive norms of reciprocity (b = -.102, SE = .05, t = -2.02, p < .05) and a positive effect on

negative reciprocity, b = .198, SE = .07, t = 2.75, p < .05. Likewise, supporting *H1* and regarding

RQ3, positive (b = -.341, SE = .15, t = -2.21, p < .05) and negative (b = -.279, SE = .11, t = -2.63,

p < .05) reciprocity both had a significant negative effect on vegetarianism behavioral intention.

Further supporting *H1*, but going against *H1a* and *H1b*, the direct effect between perceptions of

individualism and vegetarianism behavioral intention was statistically significant and showed a

positive relationship, b = .224, SE = .09, t = 2.26, p < .05. Broadly supporting *H2*, negative

norms of reciprocity had a significant negative indirect effect on the relationship between

perceptions of individualism and vegetarianism behavioral intention, b = -.055, [-.125, -.009]

(see Table 3). Going against *H2*, the indirect effect of positive norms of reciprocity on the

relationship between perceptions of individualism and vegetarianism behavioral intention was

not statistically significant, b = .034, [-.001, .087].

Discussion

From the outset, this research has investigated social norms as mechanisms within the

relationship from complex cultural dimensions to pro-social behavior intention, highlighting the

importance of reciprocity within these directional effects. More specifically, it has been argued

that significant cultural alignments of collectivism and femininity lead to a greater intention to

act pro-socially (*H1a-b*), acting through salient social and referent norms that accept

vegetarianism (*H2a-b*). In contrast, individuals with high individualism and masculinity

orientations were hypothesized to present the opposite effect (*H1a-b*). The final variables of

interest, reciprocity, or reciprocal behaviors, were argued to be a component within an

individual's cultural perception or alignment, further strengthening the intention of pro-social

behaviors or lack thereof (*H1* and *H1a-b*). Through the conducted survey and subsequent

analyses, results both supported and failed to support the proposed hypotheses.

Culture, Reciprocity, and Vegetarianism

Although the low reliability of cultural measurements posed serious barriers for testing

hypotheses regarding a participant's beliefs of cultural dimensions, the measures of

individualism and collectivism perceptions allowed for sufficient analysis. Though direct

relationships of beliefs could not be observed, the perceptions of norms could be related to the

gathered perceptions of culture, allowing observation of each variable's perceptual relationships.

Through this analysis, individualism, going against the hypotheses, positively related to the

future intention to become vegetarian. A possible explanation for this finding relates to the

definition of vegetarianism, including both behaviors that could be pro-social and the potential

adoption of a vegetarian self-identity (Ruby, 2012). As this is the case, emphasizing the self and

personal betterment over the community—or being an individualist—could be included in the

self-identity that vegetarianism imposes for *some* individuals. Vegetarianism can include holding

beliefs and performing actions that emphasize community and environmental well-being

compared to those who are non-vegetarian, alongside the possibility of adoption because of

personal health and mental benefits (Lea & Worsley, 2003; Ruby, 2012). These justifications

could lead self-identifying vegetarians to believe they are improving the world on their own

without the help of non-vegetarians or are partaking in a vegetarian lifestyle for their personal

well-being and not to improve the community. Thus, being a vegetarian with these reasonings

could lead to perceptions like that of an individualist, creating a positive correlation as shown.

Another explanation of this unanticipated finding stems from the theoretical assumption

that perceptions of culture may not always be the direct causal factor within the intention to act

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pro-socially, as only perceptions of individualism held a significant correlation. Instead, and as was supported by the mediation models, norms of positive or negative reciprocity could be the primary contributors to the intention to engage in pro-social behaviors. From these models, cultural perceptions were shown to operate through an individual's reciprocal beliefs and norms, leading to their subsequent intention, or lack thereof, to perform pro-social behaviors (see Figure 3 and Figure 4). Further, an individual's reciprocal alignment was found to have a significant direct and mediating effect on the intention to perform pro-social behaviors within both path models (see Table 3, Figure 3, and Figure 4). Thus, the implication of causality supports that cultural perceptions do not always directly affect pro-social intention but instead reinforce the beliefs and norms regarding them, such as positive or negative reciprocity, leading to the intention to perform a behavior. Past research has supported this claim, suggesting that reciprocity has a direct effect on whether or not prosociality is acted upon (Gouldner, 1960; Lewis, 2015; Putnam, 2000), leaving cultural perceptions to be the overarching variable that diffuses these beliefs but does not directly facilitate the intention to perform actions.

Justifying this standpoint and supporting *H1*, it was found that perceptions of collectivism are positively related to positive reciprocity and negatively related to negative reciprocity (see Table 2 and Figure 3). This finding provides evidence that individuals who hold strong perceptions of collectivism are more likely to engage in behaviors that benefit others through positive reciprocity, bettering their community in the process. Further, individualism showed the opposite relationship (see Table 2 and Figure 4), as those who held stronger individualist perceptions agreed more with negative reciprocal behaviors and less with positive reciprocity. Although a stronger emphasis on negative reciprocity can cause social norms to dissipate (Chen et al., 2009), both reciprocal norms are equally needed within a social group,

leading those with greater perceptions of individualism to count on those with greater

perceptions of collectivism to act with positive reciprocity and vice versa. While positive

reciprocity creates greater community well-being, negative reciprocity ensures the proper

functionality of a community and the social norms within it, creating a perceived *just* system for

cultural and community members (Caliendo et al., 2010; Lerner, 1980; Suranovic, 2001a). Thus,

from these findings, it can be argued that both perceptions of culture are needed for a community

to function correctly, acting as a form of 'checks and balances' with one another by providing

both positive and negative reciprocity to a referent group, community, or society. These checks

and balances establish pro-social behaviors with positive reciprocity, vindicating an individual's

view that they live in a just world, then safeguarding this just-world theory through negative

reciprocity, ensuring that community members who go against the norms '*reap what they sow*'

(Dalbert, 2009; Lerner, 1980).

The findings did not fully support the contention that descriptive norms were mediators

within the relationship between cultural perceptions and vegetarianism behavioral intention.

However, both negative descriptive and injunctive norms negatively correlated with perceptions

of collectivism, while no other correlations were found between social norms and cultural

perceptions. As both negative norms were found to negatively correlate with vegetarianism

behavioral intention and perceptions of collectivism, an individual is seemingly more strongly

influenced by the negative beliefs among their social group than if those same groups or

significant referents held positive beliefs. Re-introducing the focal norms related to a specific

action—or the social norms that are most present for individuals based upon their referent

group—the focal norms held by significant referents that present opposing views of pro-social

behaviors and perceptions of culture are seemingly more salient than positive beliefs of that same

behavior. The negativity bias or effect supports this notion, finding that an individual will be substantially more affected by a negative belief, event, or action when compared to a positive or neutral belief of equal intensity (Baumeister et al., 2001; Kanouse & Hanson Jr., 1987). Similarly, if an individual were to be presented with a new belief or behavior, prospect theory argues that all things being equal, an individual would believe the potential negatives would strongly outweigh the possible positives (Costantini & Hoving, 1973; Kahneman & Tversky, 1979; Kanouse & Hanson Jr., 1987; Wells et al., 1999). Thus, these findings and the human tendency to negatively bias our perceptions support that negative norms are significantly more focal than equivalent positive norms when a new cultural belief or intention to perform a behavior is presented.

However, these results have led to further discussion and research regarding cultural theory and how shared social perceptions are linked to pro-social and reciprocal behaviors. Although individualist and collectivist cultural *perceptions* correlated with the variables of interest, the full extent of personal cultural *alignment* could not be observed and analyzed as the scales were unreliable. Similarly, no sufficient data was gathered or analyzed concerning the other two cultural dimensions of interest: femininity and masculinity, leading to intriguing possible future directions incorporating these variables. Thus, this lack of sufficient individualized cultural orientation measures leads to further research regarding cultural alignment and prosociality, using measures that reliably isolate these variables.

Measuring Culture

The present study is not alone in its difficulty of accurately and reliably measuring 'culture.' Measuring culture for the sake of understanding the *individual* separately from their broader society presents many difficulties, first being the popularization of cultural

measurements within marketing and organizational publications (Hofstede & Minkov, 2013; Sharma, 2010; Singelis et al., 1995; Triandis & Gelfand, 1998; Yoo et al., 2011). This divergence leads to scales that merely address norms or beliefs relating to cultural variables or that survey exclusively for consumer marketing use, asking about the respondents' perceptions of culture within an organization or broader community and not actual measurements of the variable within the individual. Further, the conceptualization and empirical study of culture is not often utilized in social psychology and social science studies, but more so when quantifying and understanding consumer and employee habits, again, based upon perceived norms and not personal beliefs.

The most popular of these scales, aside from G. Hofstede's Values Survey Module (VSM) (Hofstede & Minkov, 2013), is the Individual Cultural Values Scale (CVSCALE) (Yoo et al., 2011). Using Hofstede's dimensions (Hofstede, 1984), this scale narrows the measurement to the individual instead of a broader organization, suggesting promising capabilities. However, the CVSCALE does not directly measure personal values or specific cultural alignment but measures the perceived social norms relating to Hofstede's dimensions (Oyserman, 2006; Sharma, 2010). Similarly, popularized cultural scales often measure individualism-collectivism and masculinity-femininity as opposites of one another, i.e., if a respondent disagreed with individualism, they are thus collectivist. Instead, these variables should be explored individually, measuring individualism, collectivism, masculinity, and femininity as separate variables with distinct and differing personal values (Oyserman et al., 2002; Sharma, 2010). Lastly, scales like the CVSCALE have not explored cross-cultural contexts, examining only specified cultures and regions and not exploring its validity between cultures (Sharma, 2010). This exclusivity leads to unidimensional cultural scales that only quantify the broad principles of culture and do not

account for the wide range of dynamic global cultural beliefs (Sharma, 2010; Singelis et al., 1995).

Even so, other scales that have addressed these concerns (Sharma, 2010; Triandis & Gelfand, 1998) have themselves fallen short within reliably measuring cultural alignment— quantifying culture merely for marketing purposes or lacking cross-cultural testing and validity. Thus, a lack of proper measurement instruments towards cross-cultural and personal cultural alignment can be observed. Before culture can be responsibly related to other variables, such as perceived norms, pro-social behaviors, and reciprocity, it must first hold the ability to be measured and academically *defined* within the domain it is being researched. The complexity of culture leaves room for immense interpretation across academic fields, leading researchers to define such a dynamic concept in various ways. Although this variety aligns with its complexity, researchers should understand the breadth of culture before measuring it, choosing a focused definition and a measurement instrument that aligns with such focus.

Multidisciplinary Cultural Definitions

Within social psychology, culture is the overarching framework within a given society, acting as a social platform that not only shapes those within it but is shaped by them (Fiske et al., 1998). This social platform is built from cultural knowledge and understanding, guided by society's social norms, values, and traditions (Tylor, 1920). However, this definition does not reign true across all research domains, aligning with the vast complexity of culture. Fields like sociology, for example, see the concept differently, defining it as the accumulation of social and cultural capital through a population (Bourdieu, 1986; Simmel, 1972). Unlike the cyclical culture model within social psychology, cultural capital is the platform that individuals curate to be a part of and excel within a society's culture. This cultural capital includes the symbolic and

material goods within a culture that grant social status, power, and prestige within a society (Bourdieu, 1986). Similarly, cultural capital is deeply rooted within social networks and individuals' placement within their network, building social status and class definitions upon their network location and structure (Erickson, 1996).

As G. Hofstede's cultural dimensions (Hofstede, 1984, 2011) define personal values related to masculinity, femininity, collectivism, and individualism, these variables leave out the sociological paradigms of cultural capital, class structure, and the importance and interrelationships of social networks, creating discrepancies within reliable measurements. With such diverging conceptualizations comes the need for researchers to outline their definitions before measuring, framing culture in a specific light, and choosing a measurement technique that supports it. Likewise, its vast array of complexities should be noted and understood before choosing a focal point when observing culture. As culture is a complex social, economic, and political system, a holistic definition can not readily be agreed upon. However, this lack of a general definition generates the ability to research culture much like it is seemingly present in society—a system made of dynamic, fluid, and diverging components, beliefs, and social norms. As culture is abstract in its influence, so too should its research hold the same notions, being viewed through a lens of curiosity and theoretical inquiry.

Nevertheless, with such immense potential for future research comes discrepancies within cultural observation that should be noted. Aside from the incongruities within measurement, culture has been heavily influenced by Western researchers' examination, failing to be replicated outside of these conditions (Shweder, 1991). For example, as Henrich et al. (2010a, 2010b) argue, most social and cultural psychology research is based upon participants that can be placed under the umbrella of Western, educated, industrialized, rich, and democratic (or, as they

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refer to it, WEIRD participants), and cultural findings from these individuals should not be generalized globally. As they note in their article, "Most people are not WEIRD," to generalize findings based upon WEIRD participants across all cultures could lead to unreliable assumptions and correlations. Because of simplifications like these, cultural dimensions are often unidimensional and viewed as static, not accounting for the variance among societies outside of the Western world and even the fluidity within Western cultures (Henrich et al., 2010a, 2010b). Further, these conceptualizations and subsequent measurements often rely on the personal or internal values of the individual, lacking an examination of the external or network effects that play a critical role in cultural acquisition. Although variance is presented within the improved scales, such instruments include only a select few personal values or distinct social norms relating to the dimensions, leaving out the plethora of variables established within sociology and the importance of social networks within cultural formation.

Conclusions

The present research supports the contention that perceptions of culture do not directly affect pro-social behavior intention but instead act through social norms, predominantly positive and negative reciprocal beliefs, ultimately leading to behavioral change. Further, the observed social influence of descriptive and injunctive norms on the intention of prosociality has supported the notion that perceived norms, notably among referent groups and significant others, play a significant role in the future intention to become a vegetarian. Similarly, negative descriptive and injunctive norms were more focal when the intention to become a vegetarian was presented, leading to the assertion that perceived negative norms play a more significant role in forming beliefs regarding a new behavior than positive norms the same behavior. Lastly, within the complexity of broader cultural alignments, individuals on both ends of the cultural continuum

are needed to facilitate reciprocal exchanges—promoting prosociality and positive reciprocity through perceptions of collectivism while simultaneously checking those that go against the social norms present with negative reciprocity through perceptions of individualism.

These findings encourage an expansion of cultural measurement instruments before further relationships are established, locating techniques that align with the subset of the culture studied. This development could include observing the variance within conceptualizations of culture, highlighting the differences between global cultural paradigms and fields of cultural research. This conceptualization, noting the subsets of social norms, networks, values, and cultural capital, could hold a joint examination of these variables, including the roles of both the internal and external factors. By understanding the complexities and subsets within global cultural systems, reliable culture measurements can be chosen, tested, and implemented based upon such focused definitions. From this standpoint, the social construct of culture should continue to be placed within the domain of theorization and inquiry, measuring to confirm and isolate the interrelationships of the subsets within such a complex system, broadening what we consider to be included within it and how they could be related.

Practical and Theoretical Implications and Limitations

Aside from the discrepancies within cultural measurement and conceptualization, other limitations were present within this analysis, and they should not be left unnoticed. First, as this study was conducted with a college student sample, a lack of generalizability could be presented, especially regarding national or global uses of these findings. Although students are members within a broader national and even regional culture alongside varying subsets of culture through their referent groups, social affiliations, and collegiate communities, this study focused solely on these individuals. Thus, although culture can be reliably measured among these participants as

they are culturally affluent, this factor must be noted as, again, not all individuals, communities, societies, or nations are WEIRD (Henrich et al., 2010a, 2010b). Meaning, these findings should not be immediately extended to individuals outside of such classifications without further inquiry.

Another limitation that presented itself involved the measurement and definition of pro-social behaviors and reciprocity. Although it is most convenient to measure pro-social and reciprocal behaviors through surveys that can be performed at home, a notion can be extended about the reliability of such findings. Most often, when someone is asked about whether they would help another, such as picking up a dropped wallet and seeking the owner, they would answer 'yes' within an online survey environment—especially in the comfort of their own home. However, as noted, injunctive and descriptive norms are not always coexisting, i.e., what is typically approved is not always what is performed (Cialdini et al., 1991). Instead, social and environmental influence often plays a critical role during the event, leading participants to answer based on what they think ought to be done but not what they would actually do. Similarly, the beliefs associated with vegetarianism are most easily understood through survey questions, hence our usage of it as a pro-social behavior within this study. These discrepancies bring about the importance of observing these behaviors within future studies, highlighting that although someone may say they would perform a pro-social action within a survey, they may not otherwise.

In observing these behaviors instead of surveying for them, a future analysis could genuinely observe human pro-social behavior, creating a reliable backing for such findings. Using mask usage during the SARS-CoV-2 pandemic as an example, if a participant were to be asked about mask usage in an online survey, they would most likely note they used them to avoid

possible embarrassment or scrutiny, creating a bias in the results. To shy away from this issue in future studies, multiple public environments within a community could be observed, tracking how many individuals wore masks and did not. Alongside this observation, surveys on community cultural traits could be randomly sent out to individuals in that community, creating a picture of their broader cultural standing. Thus, this picture could relate the community's cultural position with their sampled and directly observed mask usage, forming a clear and realistic observation between cultural dimensions and pro-social behaviors. Such a research framework will be kept in mind for further studies on this topic.

From the findings within this study, a vast array of concepts can now be integrated into future observations, such as the effects and importance of social networks, social thresholds, salient barriers, dynamic norms, and the cohesion that has been proposed between beliefs and norms. These frameworks go beyond viewing culture as a thing or a structure separated from behavioral research, further merging and building on the complex conceptualization of culture. This analysis aims to address the need for reliable observation techniques and definitions of culture, understanding culture's effects and relationships with beliefs, social networks, and pro-social action. Through these findings—analyzing the perceptions of multiple variables and how they interact with one another—there exists an immense opportunity for theoretical and empirical expansion. Specifically, it is hoped that future studies will build from these findings, viewing the concepts of culture and individual cognition with a perspective of connectedness, fluidity, and energetic creation.

APPENDIX

FULL LIST OF SURVEY QUESTIONS

Cultural Questionnaire

1 = strongly agree

2 = somewhat agree

3 = undecided

4 = somewhat disagree

5 = strongly disagree

Individualism – α =.325

1. If an individual thinks of a different way to perform a task, that person should be encouraged to do it that way.

2. It is important that people have lots of free time to pursue their own interests.

3. When children become 21 years of age, they should be encouraged to move away from home.

4. It is important that I receive individual recognition at work.

5. When I work on group projects, it is important for me to be the leader.

Collectivism – α =.268

1. It is important that people conform to company norms to reach company goals.

2. I would always cooperate to keep group harmony.

3. Parents have the right to choose the spouse for their children.

4. If I were given a large sum of money, I would share it equally with members of my family.

5. When working on a project, I would rather work as a group member than as an individual.

Masculinity – α =.460

1. It is very important for me to receive recognition for my work.

2. It is more important to me to be paid well than to have a close relationship with my boss.

3. It is important for me to keep my work life separate from my private life.

4. The most important things to my career are a good salary and a job that I do well and like.

5. People must learn to make their own way in this world.

Femininity – α =.140

1. My job is only one of many parts of my life.

2. I would rather work for a small company than a big one.

3. It is important to shake hands before all business interactions.

4. It is important to finish one interaction before rushing off to another.

5. People will achieve organizational goals without being pushed.

Norms of Reciprocity

1 = strongly agree

2 = somewhat agree

3 = undecided

4 = somewhat disagree

5 = strongly disagree

Beliefs in Reciprocity – α =.647

1. I do not behave badly towards others to ensure they do not do the same towards me.

2. I avoid being impolite so that others aren't impolite to me.

Positive Norms of Reciprocity – α =.710

6. I am alright with helping someone who has helped me in the past, even if I get nothing in return.

7. If someone helps me, I am pleased to help them in return.

8. I am okay with doing a boring action to return a favor.

9. If someone asks me for information, I am happy to help them.

11. If someone helped me win a monetary reward, I would certainly share the winnings.

12. I go out of my way to help those that have been kind to me in the past.

Negative Norms of Reciprocity – α =.749

11. If I am seriously wronged, I will go out of my way to seek revenge, no matter the costs.

12. I am willing to invest my time and effort in seeking revenge for an unfair action.

13. If I am put in a difficult situation by someone, I will do the same to them in the future.

14. If I am offended by someone, I will offend them back.

15. If someone acts unfairly to me, I act unfairly back instead of accepting their apologies.

16. I would perform a favor for someone who was unfair to me, no matter the costs.

Perceptions of Culture and Behavioral Intention

1 = very much

2 = somewhat

3 = undecided

4 = not really

5 = not at all

Behavioral Intention of Vegetarianism – α = .829

1. To what extent do you believe you will be accepted if you become a vegetarian?

10. How likely do you think you will become a vegetarian in the next three months?

11. How likely do you think you will become a vegetarian in the next six months?

12. How likely do you think you will become a vegetarian in the next year?

Perceptions of Individualism – α =.715

3. To what extent do you believe you will be accepted if you acted solely with the good of yourself in mind compared to the whole?

4. To what extent do you believe you will be accepted if you acted in a way that emphasized material goods?

5. To what extent do you believe you will be accepted if you acted in a way that emphasized personal achievement over all else?

8. To what extent do you believe personal achievement is more important than the achievements of the group?

9. To what extent do you believe my worth is more important than the worth of the whole?

Perceptions of Collectivism – α =.732

2. To what extent do you believe you will be accepted if you acted with the good of the whole in mind compared to just yourself?

6. To what extent do you believe you will be accepted if you acted in a way that emphasized achievements of the group compared to solely yourself?

7. To what extent do you believe you will be accepted if you acted in a way that emphasized growing and fostering your social relationships?

Descriptive Norms and Norms Among Referents (Ajzen, 1987, 1991; Booth et al., 2013)

1 = strongly agree

2 = somewhat agree

3 = undecided

4 = somewhat disagree

5 = strongly disagree

Positive Descriptive Norms of Vegetarianism – α = .932

1. Being a vegetarian would help me stay healthy.

2. Being a vegetarian would be better for the whole.

3. Being a vegetarian would allow me to feel more connected with my community.

4. Being a vegetarian could lead me to help others.

6. I would be proud of myself if I were a vegetarian.

7. Being a vegetarian would show how much I care about those around me.

8. Being a vegetarian would make you feel good about yourself.

9. There's nothing bad about being a vegetarian.

10. Being a vegetarian would be good for the environment.

11. Being a vegetarian would be good for my community.

12. Being a vegetarian would be good for me.

13. Being a vegetarian would align with who I am.

40. I think becoming a vegetarian is a good idea.

41. I think becoming a vegetarian would be fair to me.

Negative Descriptive Norms of Vegetarianism – α = .817

14. There is nothing good about being a vegetarian.

15. Being a vegetarian would be a lot of work.

16. Being a vegetarian would be an inconvenience.

17. I like meat too much to be a vegetarian.

18. Being a vegetarian just isn't right.

19. Being a vegetarian is embarrassing.

20. Being a vegetarian is not what people are supposed to do.

21. It would not be possible for me to become a vegetarian.

22. I don't know enough about becoming a vegetarian to do so.

23. Being a vegetarian would be stressful.

Negative Referent Beliefs of Vegetarianism – α = .721

23. Becoming a vegetarian would affect my relationships.

24. People might think badly of me if I was a vegetarian.

42. I think becoming a vegetarian is a bad idea.

43. Being a vegetarian would not be fair to me.

Positive Referent Beliefs of Vegetarianism – α = .911

23. My romantic partner(s) would think being a vegetarian was a good idea.

24. My parents would think being a vegetarian was a good idea.

25. My friends would think being a vegetarian was a good idea.

26. My family would think being a vegetarian was a good idea.

27. My community would think being a vegetarian was a good idea.

28. My professors would think being a vegetarian was a good idea.

29. My colleagues would think being a vegetarian was a good idea.

30. A new friend would think being a vegetarian was a good idea.

31. Diet professionals would think being a vegetarian was a good idea.

32. Teenagers would think being a vegetarian was a good idea.

33. Healthy people would think being a vegetarian was a good idea.

34. Unhealthy people would think being a vegetarian was a good idea.

35. Smart people would think being a vegetarian was a good idea.

36. People over 20 would think being a vegetarian was a good idea.

37. Everyone should think being a vegetarian is a good idea.

Beliefs of Vegetarianism Among Referents (Open Ended)

1. How much of the U.S. population do you believe to be vegetarian?

2. How much of the world population do you believe to be vegetarian?

3. What percent of those in your close social group do you believe to be vegetarian?

4. Think about all of the people you know; how many do you believe to be vegetarian?

5. How many of those enrolled at your school do you believe to be vegetarian?

Personal Beliefs (Open Ended)

1. What do you believe would be good about becoming a vegetarian? Specifically, write at least
   three beliefs of what would be good if you became a vegetarian. Feel free to address any other
   thoughts you may have.

2. What do you believe would be bad about becoming a vegetarian? Specifically, write at least three
   beliefs of what would be bad if you became a vegetarian. Feel free to address any other thoughts
   you may have.

3. Who would think it is a good idea for you to become a vegetarian? (you do not need to give specific names, just who they are in relation to you).

4. Who would think it is a bad idea for you to become a vegetarian? (you do not need to give specific names, just who they are in relation to you).

5. What would make it easier or encourage you to become a vegetarian? Specifically, write at least three circumstances that could encourage you to become a vegetarian. Feel free to address any other thoughts you may have.

6. What would make it harder or stop you from becoming a vegetarian? Specifically, write at least three circumstances that could make it harder or stop you from becoming a vegetarian. Feel free to address any other thoughts you may have.

Personal Beliefs of Cultural Variables

Collectivism Personal Beliefs

1. Imagine you wanted to place more emphasis on others over yourself in your daily life. What difficulties or benefits come to mind? Specifically, write at least three difficulties and three benefits. Feel free to address any other thoughts you may have.

Individualism Personal Beliefs

2. Imagine you wanted to place more emphasis on yourself over others. What difficulties or benefits come to mind? Specifically, write at least three difficulties and three benefits. Feel free to address any other thoughts you may have.

Femininity Personal Beliefs

3. Imagine you wanted to be more closely connected with your community, ensuring others are taken care of before yourself. What difficulties or benefits come to mind? Specifically, write at least three difficulties and three benefits. Feel free to address any other thoughts you may have.

Masculinity Personal Beliefs

4. Imagine you wanted to place more importance on achievements, material possession, and being looked at as better than others. What difficulties or benefits come to mind? Specifically, write at least three difficulties and three benefits. Feel free to address any other thoughts you may have.

General Questions

1. What is your age?

   - Under 20 = 1, 20-24 = 2, 25-29 = 3, 30-34 = 4, 35-39 = 5, 40-49 = 6, 50-59 = 7, 60 or over = 8.

2. Ethnic origin: Please specify your ethnicity.

   - White = 1, Hispanic or Latino = 2, Black or African American = 3, Native American or American Indian = 4, Asian = 5, Native Hawaiian or Other Pacific Islander = 6, Other/Prefer Not to Answer = 7.

3. Education: What is the highest degree or level of school you have completed? If currently enrolled, select highest degree received.

   - No schooling completed = 1, Grade school before year or grade 8 completed = 2, Some high school, no diploma = 3, High school graduate, diploma or equivalent (i.e., GED) = 4, Some college, no degree = 5, Trade/technical/vocational training = 6, Associate degree = 7, Bachelor's degree = 8, Master's degree = 9, Professional degree = 10, Doctorate degree = 11.

4. What is your gender?

   - Female = 1, Male = 2, Other = 3, Rather not say = 4.

5. Gender: How do you identify?

   - Man = 1, Non-binary = 2, Woman = 3, Rather not say = 4, Prefer to self-describe = open-ended.

6. I see myself as a vegetarian (e.g., eat no meat but still consume some animal products).

   - On a scale from five, strongly disagree, to one, strongly agree.

7. If you did not answer 'strongly agree' above, you see yourself becoming one in the future.

   - On a scale from one, strongly disagree, to five, strongly agree.

8. Out of the 21 average meals eaten per week (three meals a day times seven days a week), approximately how many meals a week <u>are meat free</u>? Please write the estimated number in the box below.

   - Open ended.

9. Out of the 21 average meals eaten per week (three meals a day times seven days a week), approximately how many meals a week <u>do you eat meat</u>? Please write the estimated number in the box below.

   - Open ended.

10. What political orientation do you most identify with?

    - On a scale from one (very liberal) to seven (very conservative).

11. What party affiliation do you most closely identify with?

    - Republican = 1, Democrat = 2, Independent/Unaffiliated = 3, Other = 4.

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