# Testing Thresholds in the <br> Integrative Theory of the Division of Domestic Labor 

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#### Abstract

The division of domestic labor has far-reaching implications for "private" life (e.g. relational satisfaction and conflict) and for "public" paid labor (e.g. time and dedication in the workplace and career advancement). Although several theories have been developed and tested, they do not sufficiently explain the consistent findings that women in mixed sex households perform a majority of the domestic labor. Without understanding the causes for differences in task performance, past research encouraging communicative solutions to ameliorate conflict was ineffective in changing task allocation and performance. Therefore, it is necessary to understand theoretical explanations that drive domestic labor behavior to develop effective solutions.

The recent integrative theory of the division of domestic labor attempts to explain how individuals interact with household partners to allocate domestic tasks. Recognizing the complexity of the division of domestic labor, the integrative theory considers individual, dyadic, and societal factors that influence task allocation. Because clear differences in task performance have been found in mixed sex households, this study separates sex and gender as distinct variables by considering same-sex roommate relationships, essentially removing sex differences from the living arrangement. Furthermore, this study considers individual threshold levels as described by the integrative theory in order to test the theoretical underpinnings. Specifically, this study is designed to investigate the relationships between individual cleanliness threshold levels and gender, sex,


perceptions of satisfaction, equity, and frequency of conflict in same-sex roommate relationships.

Results indicate support of the integrative theory of the division of domestic labor. Regarding gender differences, partial support for the theory appeared in that feminine individuals have lower threshold levels than masculine individuals. Regarding sex differences, women possess lower individual threshold levels (i.e. more bothered when a task is undone) compared to men, which likely accounts for why existing research indicates that women spend more time performing domestic tasks.

What is more, individuals with higher threshold levels report greater relational satisfaction. Further, individuals whose threshold levels differ from their living partner report lower relational satisfaction and greater conflict frequency. Finally, in terms of equity, both overbenefited and underbenefited individuals experience more conflict than those who feel their relationship is equitable. These results provide theoretical support for the integrative theory of the division of labor.

Furthermore, the development and testing of a threshold measure scale can be used practically for future research and for better roommate pairings by universities. In addition, communication scholars, family practitioners and counselors, and universities can apply these theoretically grounded research findings to develop and test strategies to reduce conflict and increase relational satisfaction among roommates and couples.

## DEDICATION

This dissertation is dedicated to my family, who encouraged and supported me throughout the research process.

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## Chapter 1

## LITERATURE REVIEW

Simple frequent activities - making dinner, doing the dishes, and throwing a load of laundry into the washing machine - may seem unimportant yet necessary tasks to maintain a household. However, the ways tasks are divided and performed have large interpersonal consequences. In fact, the division of domestic labor is a primary source of conflict in both non-romantic roommate arrangements (O’Comain, 2008; Ogletree, Turner, Vieia, \& Brunotte, 2005) and in heterosexual romantic co-habitating couples (Chethick, 2006; Erbert, 2000). Researchers have clearly established that the division of domestic labor is frequently a point of contention that negatively impacts relationships (Chethick, 2006; Erbert, 2000; Hochschild, 1989, 1997) as women bear the larger share of household task performance in mixed sex households (Blair \& Lichter, 1991; Coltrane, 2000, 2004; Davis, Greenstein, \& Gerteisen-Marks, 2007; Sullivan, 2000).

Although several theories (i.e. resource theory, time availability theory, and gender theory) have been developed and tested to explain the division of labor, they do not sufficiently explain why there is such a drastic discrepancy in task performance in mixed sex households (Alberts, Trethewey, \& Tracy, 2006, 2011). Without understanding the causes for differences in task performance, solutions to ameliorate conflict are likely to be ineffective. For example, Hawkins, Roberts, Christiansen, and Marshall (1994) performed a non-theoretical based experiment where couples participated in an intervention program that
encouraged discussion of household tasks. At the end of the program, discrepancies in the domestic task performance for many couples actually had increased, with men reporting that they actually did fewer household tasks instead of increasing their contribution as the researchers had expected (Hawkins, et al., 1994).

The recent integrative theory of the division of domestic labor holds potential to explain how individuals interact with household partners to allocate household tasks. Recognizing the complexity of the division of domestic labor, the integrative theory considers individual, dyadic, and societal factors that influence task allocation (Alberts, Trethewey, \& Tracy, 2006, 2011). This study is designed to test the integrative theory by investigating relationships among sex, gender, individual cleanliness threshold levels, perceptions of satisfaction, equity, and frequency of conflict in same-sex roommate relationships. Improving scholarly understanding of these variables will contribute to evaluating the integrative theory of the division of domestic labor (Alberts et al., 2006, 2011), while considering how individual factors (i.e., sex, gender, and threshold levels) impact domestic labor performance and roommate relationships.

What follows is a discussion of existing theoretical research to establish how domestic labor has been studied and explained. The detailed discussion of existing division of domestic research among both heterosexual couples and same-sex roommates establish the importance of domestic labor as an important issue worthy of further study. Finally, study methodology, results, and implications of those results are reported.

## Division of Domestic Labor Theoretical Foundation

Research on the division of domestic labor has a rich history of measurement and theoretical testing (Canary \& Emmers-Sommer, 1997; Coltrane, 2000, 2004; Sullivan, 2000). Although many theories have been developed, three have gained the most attention by scholars: resource theory, time availability theory, and gender theories. Additionally, a new theory has been introduced, the integrative theory of the division of domestic labor, that holds potential to explain differences in task allocation. Following is a review of these theories.

## Resource Theory

According to resource theory, the individual in a relationship who generates the most external resources (generally income) will perform fewer domestic tasks compared to their partner who contributes fewer resources to the relationship (Baxter, Hewitt, \& Western, 2005; Greenstein, 1996). Essentially, the higher income earner in a household is "buying out" of task performance when "child care and housework are performed in a rational and efficient manner in which the person with the most time and the least economic resources, performs the most domestic labor" (Baxter, 2005, p. 302). Therefore, if a husband is a primary breadwinner and the wife stays home, it makes sense that the wife attends to domestic tasks while the husband focuses on contributing income through paid labor.

However, resource theory lacks explanatory power for several reasons. First, resource theory centers on a single cause for human behavior to account for a complex activity. Additionally, resource theory assumes that individuals are
rational and able to accurately measure costs and benefits (Alberts et al., 2011). This theoretical assumption is also problematic because although reasoned argument is important, individuals are influenced by other factors as well, such as cultural assumptions and perceptions of fairness.

Furthermore, resource theory has received little empirical support. For example, research indicates that women who earn more than their husbands, that is, contribute greater financial resources, still perform a majority of domestic labor in the household (Dempsey, 2002). Also, in platonic mixed-sex roommate arrangements, where all roommates have the same workloads and contribute equally to rent, female roommates spend almost twice the time (12.6 hours per week) on cleaning and domestic tasks compared to male roommates (6.4 hours per week) (Mikula, Freudenthaler, Brennacher-Kroll, \& Brunschko, 1997). Mikula et al. note:

The observed gender differences in these studies are remarkable given the apparent lack of difference between women and men that could compensate for the imbalance. The male and female students had the same workload outside the home, and men did not make larger financial contributions that could offset their smaller contributions to household labor (p. 286).

Considering that males and females have the same workload, this expectation and enactment of unequal task performance contradicts the assumptions of resource theory.

## Time Availability Theory

Time availability theory, an alternative explanation for the division of labor, contends that the person in a household that is available will perform tasks when needed (Canary \& Emmers-Sommer, 1997; Greenstein, 1996). So when meals need to be cooked or the house needs to be cleaned, the person who is at home will complete the tasks because they are available to do so. Similar to the resource theory, time availability is likely too simplistic to explain relational dynamics influencing task behavior and has received limited support. For example, some research findings have revealed just the opposite - when women continue to work in paid labor and their husbands are retired and home all day, available to complete tasks, the woman still performs a majority of the household tasks (Dempsey, 2002). Furthermore, some men, in order to assert their masculinity, refuse to perform specific tasks (i.e. cleaning the toilets), regardless of whether the task needs to be completed (Natalier, 2003).

## Gender Theory

Of the predominant theories, gender based theories are the most widely accepted as successfully explaining the division of domestic labor. Essentially, these theories posit that individuals are socialized from birth to behave in gendered ways according to their biological sex (Maccoby, 1990). Specifically, gender ideology theory asserts that individuals perform childcare and household tasks to communicate their gendered nature (West \& Zimmerman, 1987).

It is not simply that household labor is designated as "women's work," but that for a woman to engage in it and a man not to
engage in it is to draw on and exhibit the "essential nature" of each. What is produced and reproduced is not merely the activity and artifact of domestic life, but the material embodiment of wifely and husbandly roles, and derivatively, of womanly and manly conduct (p. 144).

Therefore, women attempt to make housework and childcare look effortless and natural to demonstrate their femininity (Mederer, 1993), while men resist performing tasks to demonstrate their masculinity (Natalier, 2004).

Indeed, men and women perform domestic labor according to gendered role expectations, where:

Wives perform $96 \%$ of the cooking, $92 \%$ of the dishwashing, $90 \%$ of the vacuuming, $94 \%$ of the bed making and $94 \%$ of the diapering of children. ...Husbands do over $86 \%$ of the household repairs, $80 \%$ of the disciplining of children, $75 \%$ of the lawn mowing and $77 \%$ of the snow shoveling (Blair \& Lichter, 1991, p. 93).

Note that the tasks that females typically perform are more frequent (daily or weekly) as compared to tasks males perform infrequently and female tasks tend to be repetitive (Blair \& Lichter, 1991). The frequently repetitive nature of tasks performed by females likely contributes to the larger proportion of time women spend on domestic labor. In fact, several studies have identified that these traditionally gendered tasks that are performed by women are "the most
nondiscretionary, routine, and time-consuming household tasks" (Erickson, 2005, p. 342-343).

Marital status and number of children in the home also influence task allocation; research suggests that gender roles are reinforced as couples move from informal to formal relationships and begin to have children. Men in cohabitating romantic couples spend more time on household tasks compared to married men (Baxter, 2005; Davis, Greenstein, \& Gerteisen-Marks, 2007; Dempsey, 2002). Further, women's participation in domestic labor and childcare increases as couples have children while men's involvement in domestic tasks decreases and men increase time spent in paid labor (Sanchez, \& Thomson, 1997).

Consequently, children are likely to observe differences between men and women in task allocation, as well as the time that women engage in household tasks compared to men, contributing to gendered socialization of the division of labor and perpetuation of gendered task performance (Maccoby, 1990; Valian, 1999). Because childcare and domestic tasks are primarily performed by females, children develop ideas about how men and women are expected to act as adults (West \& Zimmerman, 1987). For example, mothers who perform a traditional "homemaker" role contribute to conceptualizations of femininity in their daughters, as a result their daughter's contributions to housework increase (Canary \& Emmers-Sommer, 1997). Children learn early on how to "do gender" as they ascertain how they should behave based on their biological sex, according
to gender roles and expectations present in their living environment (West \& Zimmerman, 1987).

Parents also contribute to gender expectations by training their children to accomplish household tasks and expecting children to participate in domestic labor. Parents encourage female children to perform more household tasks and to complete tasks more frequently in the assignment of chores. By ages 15-17 female children are performing 6.1 hours of domestic labor per week compared to 4.2 hours per week for male children (Canary \& Emmers-Sommers, 1997). In completing more tasks, female children likely increase their skill and competence in these tasks compared to their male siblings. Girls are also compensated differently, where "boys were more likely than girls to say that their allowances were contingent on the performance of household tasks" (Motimer, Dennehy, Lee, \& Finch, 1994, p. 27). When parents require girls to perform the tasks without compensation, but pay boys to complete the same tasks, the role of housework as an expected activity for females is reinforced. Therefore, socialization is likely a major contributor to delineating appropriate gendered behavior based on sex (West \& Zimmerman, 1987) and the development of proficiency in task performance skill (Alberts et al., 2006, 2011; Wood \& Eagly, 2002).

Although research consistently identifies sex differences in the allocation of domestic labor (Coltrane 2000, 2003; Sullivan, 2000), one weakness in gender theories research is that often the terms sex and gender are used interchangeably (Allen, 1998). While biological sex is fairly easy to obtain on self-report
measures, gender is more difficult to ascertain and requires a more complex research measure. As a result, many "gender" studies are actually based on biological sex and measures of gender are not used, essentially using sex and gender interchangeably (Allen, 1998).

Considering the importance of both biological sex and gender in domestic labor task allocation, this study considers them as separate and distinct variables. Following Bem (1981), an individual who is biologically male or female can also be masculine (high masculinity and low femininity), feminine (low masculinity and high femininity), undifferentiated (low in both masculinity and femininity) or androgynous (high in both masculinity and femininity); Therefore, this study asks participants to report biological sex and to complete the short version of the Bem Sex-Role Inventory to determine gender. If gender theory is correct, and individuals perform tasks based on their gendered identity, rather than their biological sex, then masculine individuals should resist domestic labor and should spend less time performing household tasks compared to feminine individuals, regardless of their biological sex. Furthermore, individuals who are androgynous might balance masculinity and femininity displays and spend less time performing tasks than masculine individuals, but more time than feminine individuals. This leads to the following hypotheses:

H1: Individuals who self-identify as being masculine will spend less time performing household tasks compared to individuals who self-identify as feminine.

H2: Individuals who self-identify as androgynous will spend less time performing household tasks compared to individuals who self identify as feminine, and more time performing household tasks compared to individuals who self-identify as masculine.

## Integrative Theory of the Division of Domestic Labor

The integrative theory of the division domestic labor (ITDDL) builds upon the strength of gender theories by also exploring how multiple other factors (e.g. individual threshold levels, self-organizing systems, social exchange, and sensemaking) contribute collectively to differences in the divisions of domestic labor (Alberts et al., 2011). The ITDDL theorists agree that gender theories have proven to be the most predictive of domestic task allocation in mixed-sex households and acknowledge that gender expectations based on biological sex are socially constructed. In addition, the theorists note that slight biological differences between men and women (e.g. sense of smell and vision) might also contribute to the way individuals' respond to domestic labor. However, the theorists point out that sex differences become pronounced based on individual responses to domestic labor that become sedimented over time. According to the ITDDL, one explanation for the accentuation of sex differences is individual threshold levels that influence domestic labor behavior.

Individual threshold levels. In particular, Alberts et al. (2011) argue that individuals have varying threshold levels, which refer to tolerance levels for uncompleted household tasks and disorder based on biological acuity and gendered expectations. Considering domestic labor, "response threshold
describes the perceived stimuli that must exist for an individual to decide to perform a task" (Alberts et al., 2011, p. 26). For example, a person with a low threshold level might be so bothered by crumbs on the kitchen counter and several dirty dishes in the sink that he/she would feel compelled to make sure to wash all the dishes and wipe down the counter right away. On the other hand, a person with a high threshold might not wipe down counters or do the piled up dishes in the sink until there were no clean dishes left in the household, and even then he/she might just wash one dish and leave it in the sink dirty after use.

According to ITDDL, individuals are born with specific biological predispositions for domestic task standards that are accentuated and shaped over time through gender socialization process, and develop into behavioral patterns. One biological difference that likely contributes to task allocation is variations in retina thickness of males and females (Sax, 2005). Men have thicker retinas that contain a greater number of magnocellular ganglion cells, connected to the rods in the eye that detect motion. Females, on the other hand, have thinner retinas that contain a greater number of parvocellular ganglion cells, connected to the cones in the eye that detect color and texture. Therefore, female vision is more acute in sensing texture and detail, compared to male's vision abilities in detecting movement (Sax, 2005). Additionally, females have a keener sense of smell compared to men (Trost \& Alberts, 2006). That females are more inclined to see dirt and smell unpleasant odors, may partially explain why they are more likely to act to change (i.e. tidy) their environment (Alberts et al., 2006, 2011).

Over time, if women respond more frequently based on these small biologic differences, patterns in behavior develop and contribute to differences in male and female behavior (Hrdy, 1999; Wood \& Eagly, 2002). Small sex differences in behavior over long periods of time likely are accentuated and develop into gendered expectations that perpetuate the behavioral enactments (Alberts et al., 2006, 2011; Wood \& Eagly, 2002). Therefore, if women have biological predispositions to be bothered by dirt and odor, they likely possess a lower threshold level for domestic labor and are bothered when a task is not completed. This lower threshold would compel women to clean more frequently, creating behavioral patterns and expectations that cleaning is "women's work" and that to perform femininity, females should be proficient in performing household tasks.

Males, on the other hand, based on biological differences compared to females, likely possess slightly higher threshold levels and are less bothered by dust and odor they do not see or smell. If males do not recognize a stimulus to clean (i.e. a dusty table) because they have higher threshold levels, they are less likely to act on that stimulus (i.e. dust). Over time, as a female performs a task that a male ignores, men will likely experience gender socialization that resists task performance in order to perform masculinity. Based on the theoretical underpinnings of the ITDDL and gender enactment theories, one can hypothesize the following:

H3: Women have lower threshold levels compared to men.

H4: Individuals who self-identify as being feminine will have lower threshold levels compared to individuals who self-identify as being masculine.

Self-organizing systems. In addition, the ITDDL also accounts for selforganizing systems by acknowledging that task performance depends not only on the individual's threshold level, but the threshold level of other living partners. Task performance differences can create divergence patterns where, "first, the performance of a behavior by one individual reduces the likelihood others will perform the same behavior, and second, one's own stimulus level for the behavior decreases in the presence of others' performance" (Alberts et al., 2011, p. 27). So although women might have different biological acuities to dirt and smells, the threshold level of the person they are living with also is integral to task allocation and performance.

According to ITDDL, individuals with a lower threshold (low tolerance for disorder) are compelled to complete a task more quickly compared to individuals with a high threshold (high tolerance for disorder). This theory can be applied to both romantic and non-romantic household arrangements. For example, Oscar might have a high threshold level, allowing him/her to tolerate disorder and to "not even notice" when a task is undone. On the other extreme, his roommate Felix might have a low threshold level for cleanliness, in which case he completes tasks frequently, such as emptying the garbage daily to prevent the residence from smelling. If two individuals with high and low thresholds are paired together, a pattern is likely to emerge where the individual with the low
threshold level, Felix, cleans frequently because he is disturbed when the apartment is messy. Further, the high threshold individual, Oscar, will likely not clean at all because the residence is never allowed to become dirty enough for him to notice it needs cleaning. Even if Oscar witnesses Felix cleaning, he will continue to watch because he is not bothered if the task is not completed and likely assumes that Felix is performing the task by choice.

Therefore, in terms of task performance, differences between partners'/roommates' threshold levels may be as important as one's individual threshold level. For example, if a husband and wife are both relatively clean and concerned with housekeeping, but the husband's threshold is lower, the husband is likely to perform tasks more frequently. Likewise, if a husband and wife care little about the cleanliness of their living space, but the wife cares slightly more than the husband, the wife with the lower comparative threshold level will be more likely to clean more frequently. In order to empirically test the assumptions of threshold levels in the ITDDL, I propose the following hypothesis:

H5: The individual with a lower threshold level compared to his/her household partner will spend more time completing household tasks.

Given principles of self-organizing and divergence patterns, over time, the individual with the lower threshold level who performs tasks more frequently will develop relevant task skills. However, the individual with the higher threshold level will almost never perform the task, so when he/she does decide to "help out," he/she will not have the same proficiency as his/her household partner, resulting in performing the task more slowly and possibly ineffectively; thus
reinforcing the idea that he/she should just let his/her household partner, who is a "natural," take care of the task.

It is possible that threshold levels apply equally to all tasks as a global quality, so that individuals are generally bothered when any task is not completed. However, it is also possible that individuals have threshold levels for specific tasks, particularly if they have developed a proficiency in performing the task and expectations for quality of task completion. Therefore, I pose the following research question:

RQ1: Is there a difference in participant's global threshold level and threshold levels for individual tasks?

Social exchange theory. The ITDDL also incorporates social exchange theory, which "treats the exchange of benefits as the basis for human interaction" (Alberts et al., 2011, p. 29). At a societal level, social exchange allows individuals to give freely, knowing their gifts will be repaid; this practice perpetuates "as a unique adaptive mechanism of human beings, allowing for the division of labor, the exchange of diverse goods and different services, and the creation of interdependencies that bind individuals together as highly efficient units" (Cialdini, 2009, p. 20). In interpersonal relationships, individuals provide services or benefits (outputs) freely, with the expectation that their contributions will be reciprocated (inputs). Importantly, exchanges do not need to be "in kind" for this system to perpetuate (Cialdini, 2009). For example, one person might contribute more to household labor and childrearing, while the relational partner contributes greater levels of financial support. As long as both individuals feel
that they are receiving benefits from the relationship and not extending more effort than is reciprocated, they are likely to be relationally satisfied and continue the relationship.

Two important concepts resulting from social exchange perspectives include equity (or inequity) and relational satisfaction. Individuals' in equitable relationships report feelings of higher relational satisfaction compared to both overbenefited and underbenefited individuals (Sprecher, 2001; Stafford \& Canary, 2006; VanYperen \& Buunk, 1990). Overbenefited individuals are receiving more than they are contributing to a relationship, where underbenefited individuals are contributing more to a relationship than they are receiving in return.

In inequitable relationships, overbenefited individuals who recognize the imbalance often feel guilty because they are receiving more than they deserve from the relationship (VanYperen \& Buunk, 1990). On the other hand, underbenefited individuals are likely to "feel sad, frustrated, anger, and hurt because they receive less than they believe they deserve" (VanYperen \& Buunk, 1990, p. 288). Although both underbenefited and overbenefited individuals experience inequity and lower relational satisfaction, underbenefited individuals have been found to be the least satisfied in their relationships (Stafford \& Canary, 2006).

Existing equity research primarily considers romantic heterosexual partners or couples when evaluating equity and relational satisfaction. This study extends equity research by considering same sex, non-romantic roommates.

Although many factors (i.e. instrumental support, affection, etc.) influence perceptions of equity, of particular interest to this study is the importance of domestic labor. In studying romantic couples, VanYperen \& Buunk (1990) noted that, "when subjects are asked to consider their relationship from the viewpoint of equity, accomplishing chores is a salient resource of exchange" (p. 292).

Generally, global measurements of equity have been most successful at predicting relational satisfaction, indicating that long-term couples do not keep track of every cost and benefit (VanYperen \& Buunk, 1990). However, if domestic labor is an important consideration for equity, then roommates are likely to be sensitive to differences in threshold levels and time spent on task performance since other contributions are equal (i.e. financial contributions).

Specifically, if one individual has a low threshold level and is paired with an individual with a high threshold level, the low threshold level individual is probably spending more time contributing domestic labor compared to the high threshold individual. Over time, differences in the quantity of household task performance are likely to become an important issue that reduces global perceptions of relational equity and, as a consequence, relational satisfaction. Therefore, the following hypotheses are considered:

H6: Individuals who identify a discrepancy between their threshold level and their perception of their roommate's threshold level will experience lower perceived overall relational equity.

H7: Participants who identify a discrepancy between their threshold level and their perception of their roommate's threshold level will experience lower perceived relational satisfaction.

Additionally, if domestic labor is an important factor in assessing equity, then according to social exchange and equity theory, low threshold individuals should be dissatisfied in their relationships since they provide more inputs into the performance of domestic labor than do their partners, yet both benefit from that performance. That is, low threshold individuals likely view themselves as underbenefited in their relationships. However, the opposite claim does not necessarily follow. That is, one might expect high threshold level individuals to feel overbenefited due to their low inputs and high outputs related to domestic labor. However, because high threshold individuals likely are not aware of their partner's inputs due to the fact that their partner performs tasks before they are cognizant the tasks need to be performed, high threshold partners may not perceive themselves as overbenefited. Thus, it is not clear what relationship exists between high threshold partners' performance and their perceptions of equity and satisfaction, leading to the following research questions.

RQ2: What is the relationship between differences in threshold levels (equal, lower, or higher) on equity levels?

RQ3: How do threshold levels relate to relational satisfaction?
Sensemaking. Finally, the ITDDL explains that sensemaking processes contribute to understandings and evaluations of domestic labor contributions, with direct consequences for how domestic labor is valued and which behaviors are
reciprocated. For example, if domestic labor is viewed as a choice, then others are not likely to value the task contributions, be grateful, or try to repay the contribution. Differences in perception can be particularly problematic when one person feels that he/she completes a household task as a contribution, and the other person takes the behavior for granted or sees the task performance as a personal choice that need not be reciprocated. Although an exploration of sensemaking in relation to gratitude and threshold levels is beyond the scope of this study, it is an integral part of the ITDDL that warrants exploration. In particular, if this study is able to establish that threshold levels are a salient factor in perceptions of equity and relational satisfaction, sensemaking process might offer a vehicle for open discussion that can facilitate greater understanding and reallocation of task performance.

The ITDDL holds promise in accounting for sex and gender differences while offering additional explanations for reoccurring behaviors. Furthermore, because individuals have the ability to recognize their behaviors and adjust their actions, individuals likely can make positive changes in allocations of domestic labor. However, before applying the ITDDL to change communication practices, it is necessary to empirically test the components of this theory, which is a primary goal of this research study.

## Impact of the Division of Domestic Labor

The division of domestic labor has been recognized as a leading source of conflict in both heterosexual romantic relationships (Chethik, 2006) and nonromantic roommate relationships (Ogletree, et al. 2005). Furthermore, extensive
research establishes that inequities exist in task performance and the negative effects of these inequities. Below is a detailed discussion of existing research on the division of labor for both heterosexual romantic relationships and nonromantic roommate relationships, which forms a basis for current understandings of the division of labor that is foundational for this study.

## Division of Labor Concerns among Heterosexual Couples

Most division of labor research focuses on heterosexual romantic couples and indicates that differences in domestic labor performance is problematic, hindering individual health (Bird, 1999; Cubbins \& Szaflarski, 2001), increasing conflict (Chethick, 2006), and slowing advancement in the workforce (Hochschild, 1997; Hewlett, 2005, 2007; Stone, 2008; Valian, 1999). Research consistently reports that in heterosexual living arrangements, women engage in a majority of domestic labor compared to men (Coltrane, 2000, 2004; Sullivan, 2000) regardless of marital status (Davis, Greenstein \& Gerteisen-Marks, 2007), egalitarian or traditional beliefs (Greenstein, 1996), and race (Dillaway \& Broman, 2001).

Although women have increased their rights and representation in the workforce, domestic labor allocations have not greatly changed (Sullivan, 2000). Sullivan (2000) compared the performance of domestic labor across studies over twenty years to determine if social changes, including more egalitarian attitudes and women's prevalence in paid labor, have shifted allocations of domestic labor. Women still perform a majority of domestic labor, with only a slight shift in the allocation of tasks. According to Sullivan (2000), men are not increasing their
participation, but women slightly reduced their quantity of housework performed by outsourcing. Although outsourcing labor is viable for some, it is impossible for those without financial means. Furthermore, shifting undesirable housework and childcare to others, serves to reduce the perceived value of this work (Folbre, 2005).

Because imbalances in the division of domestic labor are still predominant in the United States, with women performing a majority of the tasks, it is important to understand the related costs of disparate task allocations. Bird (1999) reports that imbalance in the division of domestic labor results in negative health outcomes for women including increased depression. Furthermore, imbalances between household task allocation and paid labor obligations have also been linked to heart disease (Cubbins, \& Szaflarski, 2001). On the other hand, when men increase task performance to 49 percent of household chores, they experience no negative side effects while reducing women's stress and depression (Bird, 1999).

In addition, the division of domestic labor is the third leading cause of marital conflict after money and children (Chethick, 2006; Alberts, et al., 2011) and can lead to marital dissolution (Gottman, 1994). Conflict also negatively influences physical health and is related to lower physical immunity (KiecoltGlaser, Glaser, Cacioppo, Malarkey, 1998), cardiovascular functions (Cupach \& Canary, 1997), and life expectancy rates (Gottman, 1994).

Imbalanced domestic task allocations also influence paid labor in the workforce for both women and men. For example, women's slower workforce
advancement is attributed to private life commitments that reduce the time and energy spent in paid labor (Hochschild, 1989, 1997; Hewlett, 2005, 2007). Also, women are frequently offered lower monetary compensation compared to men and promoted less often because they are perceived as being less committed to their employer based on assumptions of private life responsibilities (Hochschild, 1997, Valian, 1999).
"Family friendly" policies are often put in place by organizations to help employees manage private life demands; however, both women and men who use these policies, including flexible work schedules, reduced hours, and leaves of absence to care for family members, are frequently penalized through offers of less attractive assignments, slower advancement in the organization (Hochschild, 1997), and resentment from co-workers (Kirby \& Krone, 2002). In particular, men who take advantage of "family friendly" policies are often criticized and seen as an anomaly by co-workers and supervisors, who often resist allowing men to take advantage of the policies (Hochschild, 1997).

Finally, many women report being pushed out of the workplace, while simultaneously being pulled by family demands, influencing women to exit paid labor altogether (Stone, 2008). Yet, a majority of households are reliant on two incomes in order to support their families (Bryant \& Bryant, 2006). Some women are not able to exit paid labor because of financial obligations and women's prevalence in paid labor has continued to grow. In 2009 women comprised 49 percent of the workforce in the United States and this figure is expected to increase (Rampell, 2009). With women's increasing prevalence in the paid
workforce, current organizational structures and societal gendered expectations continue to contribute to inequities that negatively impact women (and men who take on primary roles in the home) in terms of income and organizational advancement (Hochschild, 1997; Valian, 1999).

Considering the negative impact domestic labor has on physical and mental health (Bird, 1999; Gottman, 1994), relational conflict (Chethick, 2006; Oglegree et al., 2005), and paid employment (Coltrane, 2000; 2004), domestic labor is indeed an issue worthy of exploration. Currently, a majority of the existing research explores the division of domestic labor between heterosexual romantic couples. These studies are useful in substantiating sex differences and gendered theories of domestic labor, but have not been able to substantiate other theoretical explanations for domestic task performance.

Because sex differences in the amount of time dedicated to domestic labor become more pronounced in opposite-sex living arrangements (Mikula, Freudenthaler, Brennacher-Kroll \& Brunschko, 1997), this study isolates sex as a factor by considering same-sex roommates. Furthermore, removing sex differences between living partners will also allow for a purer test of threshold levels in household partners. In addition to furthering theoretic development on the division of domestic labor, a better understanding of domestic labor among college same-sex roommates can have positive direct applications for universities.

## Division of Labor Concerns Among Roommates

Approximately 18.2 million students were enrolled in degree-granting institutions in the United States in 2007 and this number is expected to increase
over the next decade (National Center on Education Statistics, 2009). Most students seek roommates or apply for university housing where roommates are assigned to them. While many students look forward to the opportunity to meet new people and develop lasting friendships (Riforgiate, 2007), other individuals feel they are engaging in "roommate roulette" and fear they will be paired with a roommate who makes them miserable (Scott, 1998, p. 13).

Concerns about getting along with a new person are not unfounded, and conflict between college roommates can be costly in terms of academic success (McEwan \& Soderberg, 2006; Shook, 2008), satisfaction with the university (Stern, Powers, Dhaene, Dix, \& Shegog, 2007), perceived social support (Lepore, 1992), stress and psychological well being (Hicks \& Heastie, 2008), and decisions to transfer or drop out of college (Clayton, 2001; Hardy, Orzek, \& Heistad, 1984). Cleanliness issues, including how household tasks are distributed and performed remains one of the primary conflict topics among roommates (O'Comain, 2008). In fact, ninety-five percent of college roommates indicated that cleanliness was at least moderately important for roommate assignments (Ogletree et al., 2005). Furthermore,

About a third of the college students indicated that they experienced conflict (34\%), guilt (30\%), and/or resentment (33\%) related to housework at least several times a month. Twenty-seven percent indicated dissatisfaction with their roommate's housecleaning habits, $48 \%$ of the students have talked with their roommate/significant other at least three times regarding
housecleaning issues, and $20 \%$ have changed living arrangements at least once in the last three years because of housecleaning issues (Ogletree et al., 2005, p. 232).

Research has established that household task performance is a salient concern among college roommates and that conflict frequently results over disagreements about domestic labor (O’Comain, 2008; Ogletree et al., 2005).

In addition, roommate conflict frequently leads to stress and negative enduring outcomes. As Dusslier, Dunn, Wang, Shelly, and Whalen (2005) explain, stress caused by roommate conflict "reduces work effectiveness, contributes to bad habits and results in negative long-term consequences, including addictions, crime, absenteeism, poor academic performance, school dropout, professional burnout and ultimately career failure" (p. 16). Also, college students who experience conflict with roommates indicate that their academic performance suffers and they are more likely to drop out of college (Hardy et al., 1984).

Given that students have identified domestic labor as a significant source of conflict and that roommate conflict often leads to serious negative outcomes, colleges have attempted to develop systems to match roommates according to cleanliness preferences. For example, some colleges are experimenting with social networking sites to allow students to communicate with other students prior to selecting a roommate, while other colleges have created surveys to aid in the roommate assignment process (Clayton, 2001; Stern et al., 2007). Universities that ask a wide range of questions including attitudes and behaviors towards
cleanliness, cleaning preferences, and habits have found correlations with successful roommates pairings (Clayton, 2001). For instance, University of Texas at Austin surveys students regarding preferences for roommate cleanliness (Clayton, 2001), while Davidson College in North Carolina has students select personally descriptive statements such as "... I like to have everything in place. I clean my room only when needed. I clean my room regularly. I am excessively neat." (Ingalls, 2000, p. 42). At the University of Nevada at Las Vegas, students are given scenarios and asked to select a description apply to themselves:

Struggling to wake up, you open your eyes to a gray, overcast morning. You survey your room from the bed and see books and papers piled on the dressers among hairbrushes, mirrors, apple cores, clothes draped over chairs and on the floor, and newspapers piled up under the window. What a sight! Response: (a) This sounds like my room all the time - messy, but lived in. (b) I would probably clean my room, but who knows when. (c) My room would seldom be that messy. (d) This doesn't apply to me; I would always keep my room neat and clean (Hardigg \& Nobile, 1995, p. 91).

The universities in these examples acknowledge the importance of pairing roommates based on cleanliness; however, other universities have discontinued their program because of limited success (Clayton, 2001). Based on the roommate questions provided, one can see that each university takes a unique approach to determining how roommates should be paired, perhaps explaining
why one system might be more successful than another. Until researchers better understand what drives domestic labor behavior and how that behavior is related to conflict, it is difficult to construct a consistent and empirically valid measurement to use in roommate pairing. Therefore this study seeks to test the ITDDL, while considering how same-sex roommates also relate in terms of relational equity, satisfaction, and conflict, leading to the final hypothesis and research questions:

H8: Participants who identify a discrepancy between their tolerance threshold level and their perception of roommate's threshold level will experience greater conflict frequency over household tasks.

RQ4: How do underbenefited, equitable, and overbenefited participants differ in relation to conflict frequency over the division of domestic labor?

RQ5: How does relational satisfaction relate to conflict frequency over the division of domestic labor?

## Chapter 2

## METHODOLOGY

This study found individuals who met the following qualifying requirements: (1) age 18 or older, (2) living with one (or more) non-romantic roommate(s), (3) who was of the same biological sex, and (4) lived together for at least three months. To answer the research questions, a cross-sectional methodology was employed. The study received approval from the author's institutional review board and the questionnaire was administered using the online survey distribution system SurveyMonkey.com. Undergraduate students in an introductory communication class at a large Southwestern university were recruited to complete the online survey for extra credit. Students were offered two alternative and equivalent extra credit surveys.

Potential participants received a link through e-mail, which directed them to the online consent page. Selecting the 'next' link at the end of this page provided informed consent and led to the survey. Qualifying questions were placed on the first several survey pages. This process generated three groups: (1) participants who completed the survey and were included in this report, (2) participants living with opposite sex roommate(s) completed the survey but were not included in this report, and (3) participants who did not qualify based on the four requirements specified above were automatically directed to an alternative extra credit opportunity.

## Participants

Of the 735 students who accessed the survey for extra credit, 467 (63.54\%) participants with same sex roommates met the recruitment qualifications and completed the online questionnaire. Participants included 265 men (56.7\%) and 201 women ( $43.0 \%$ ), with one participant not indicating sex ( $n$ $=1 ; 0.2 \%)$. Participants predominately identified themselves as White $(n=313$; $67 \%$ ), followed by more than one ethnicity ( $n=65 ; 13.9 \%$ ), Hispanic ( $n=39$; 8.4\%), African American ( $n=20 ; 4.3 \%$ ), Asian ( $n=20 ; 4.3 \%$ ), and other ethnic groups $(n=10 ; 2.1 \%)$.

Most participants ( $92.7 \%$ ) were between the ages of 18 and $21(M=20.49$, $S D=1.52)$ and were sophomores $(n=210 ; 45 \%)$, followed by freshmen $(n=137 ;$ 29.3\%), juniors ( $n=89 ; 19.1 \%$ ), seniors $(n=29 ; 6.2 \%)$, one indicated other $(n=$ $1 ; 0.2 \%$ ), and one provided no response ( $n=1 ; 0.2 \%$ ). All participants confirmed that they were living with a non-romantic same-sex roommate and that they were not married. Participant responses reflected a range of college course load and paid outside employment. Very few participants were registered for fewer than 10 credit hours ( $n=9 ; 1.9 \%$ ), while the remainder were registered for 10 to 12 credit hours ( $n=91 ; 19.5$ ), 13 to 16 college credit hours $(n=271 ; 58 \%), 17$ to 19 credit hours ( $n=89 ; 19.1$ ), 20 or more credit hours $(n=3 ; .6 \%)$, and four participants declined to answer this question ( $0.9 \%$ ). Over half of the participants did not work for pay ( $n=268 ; 57.4 \%$ ), while others worked for pay for one to 10 hours ( $n=44 ; 9.4 \%$ ), 11 to 20 hours ( $n=73 ; 15.6 \%$ ), 21 to 30 hours ( $n=47 ; 10.1 \%$ ), 31 to $40(n=30 ; 6.4 \%)$, and 41 to 50 hours ( $n=4 ; 0.9 \%)$.

Most participants reported having between one and three roommates ( $96.1 \%$; one roommate $n=177,37.9 \%$; two roommates $n=91,19.5 \%$; three roommates $n=181,38.8 \%$ ), and few indicating four or more roommates ( $n=18$, $3.9 \%$ ). Participants were instructed to complete the survey based on the roommate whose birthday was closest to their own birthday so that responses throughout the survey represented only one roommate relationship.

A variety of living arrangements were represented, including off-campus apartments or condos ( $n=156 ; 33.4 \%$ ), dorm rooms without kitchens ( $n=117$; $25.1 \%$ ), on-campus dorm suites with a full kitchen ( $n=109 ; 23.3 \%$ ), off-campus houses ( $n=73 ; 15.6 \%$ ), and fraternities or sororities $(n=12 ; 2.6 \%)$.

Most participants indicated they had lived with their current same sex roommate for three to four months ( $n=205 ; 43.9 \%$ ), followed by five to six months ( $n=144 ; 30.8 \%$ ), with the remaining participants reporting that they had lived with their same sex roommate for seven or more months ( $n=117 ; 25.1 \%$ ), and one no response $(0.2 \%)$. Most participants reported that they had selected/chosen their current roommate ( $n=266 ; 57 \%$ ), while other participants reported that their roommate was assigned ( $n=172 ; 36.8 \%$ ), lived with a roommate chosen by another roommate ( $n=22 ; 4.7 \%$ ), or lived with a sibling ( $n$ $=7 ; 1.5 \%)$.

## Measurement

## Individual Threshold

Threshold measures focused on both individual and comparison (participant vs. roommate) judgments. Individual threshold levels represent the
point at which an individual is bothered by an uncompleted task. Individuals with low threshold levels are bothered more quickly, and to a greater extent, than individuals with a higher threshold level. The individual and comparison threshold measures contain similar items and potentially overlap. Therefore, a factor analysis (i.e., principal components analysis with Varimax rotation) was performed on the individual-level Mess Threshold Level Measure (including six specific and one global item) and Threshold Comparison Measure (six specific and one global item) that were used in this study.

Using a $.60 / .40$ selection criterion (i.e., primary loadings must be at least .60 and no secondary loading can be greater than .40 ), two factors emerged that matched the scales' original structure $\left(\mathrm{KMO}=.91\right.$, Bartlett's test of Sphericity, $\chi^{2}$ $=4400.35, p<.001)$. All the terms loaded on expected factors (see Appendix A). Therefore, the scales measures independent judgments.

The seven-item Mess Threshold Level (MTL) scale taps individual threshold response levels (MTL; O'Colmain, 2007). Six items focusing on how bothered participants would be if specific tasks were to remain undone (i.e., cleaning the bathroom, dusting, doing dishes, picking up clutter, taking out the garbage, and vacuuming). The final, global, item asked, "How would you rate the degree to which undone household tasks bother you?" All seven items were accompanied by a seven-point Likert scale ( $1=$ very strongly bothered; $7=$ very strongly unaffected) (see Appendix B). The MTL scale has been found to be reliable with a Cronbach's alpha of .81 , and item-to-total correlations ranging from . 51 to . 63 (O’Colmain, 2007).

In the present data, MTL items were strongly correlated ( $r=.44$ to $.73 ; p$ $<.001$ ), item-to-total correlations were consistently strong (.89 to .91 ), and Cronbach's Alpha reliability was .91 . Therefore, the six specific MTL items and one global item were averaged to create a single mean score (Scale $M=3.88, S D$ $=1.71)$ for each respondent, where the lower scores indicated that the participant had a lower threshold level (more bothered when a task was left undone).

## Comparison Threshold

A parallel Threshold Comparison Measure (TCM) was created for this study to determine threshold level differences between the participant and their roommate. Like the individual measure, the TCM included six specific tasks (i.e., cleaning the bathroom, dusting, doing dishes, picking up clutter, taking out the garbage, vacuuming) and a global measure. Each item was accompanied by a seven-point Likert scale indicating who would be more bothered ( $1=$ I'm more bothered than my roommate; $4=\mathrm{We}$ are equally bothered or not bothered; $7=$ My roommate is more bothered than I am) (see Appendix C). For this scale, the six specific and one global comparison items were recoded from 1 to 7 to -3 (participant more bothered than the roommate) to +3 (roommate more bothered than the participant).

The seven comparison items were strongly correlated (rs ranging from . 61 to $.76 ; p<.001$ ), item-to-total correlations were strong (.92 or .93 ), as was Cronbach's Alpha of .94 (Scale $M=-.58, S D=1.49$ ). The items were averaged to create a single mean score for each respondent with negative scores indicating that the participant was more bothered than the roommate. Absolute values of
each item were also computed to indicate a raw difference score (regardless of direction), where 0 indicated no difference in threshold between roommates and 3 indicated the largest possible difference.

## Relational Satisfaction

A revised version of the seven-item Relationship Assessment Scale (RAS; Hendrick, 1988; Hendrick, Dicke, \& Hendrick, 1998) determined global roommate satisfaction. A seven-point Likert Scale accompanied each item. Although originally designed to assess marital satisfaction, the RAS has been revised to measure non-spousal satisfaction as well (Sacher \& Fine, 1996; Vaughn \& Matyastik Baier, 1999; Zacchilli, Hendrick, \& Hendrick, 2009). For this study, the word "roommate" replaced "partner," the word "relationship" was changed to "roommate relationship," and, in one item, the word "love" was replaced with "like" (e.g., "How much do you like your roommate?") (see Appendix D).

Reliability and validity of the RAS are well-established (Hendrick, Dicke, Hendrick, 1998). The RAS is psychometrically sound and offers greater parsimony compared to other relational satisfaction measures (Vaughn \& Matyastik Baier, 1999). In this study, all seven items were strongly correlated ( $r$ s ranging from .42 to $.88 ; p<.001$ ), item-to-total correlations were strong ( .91 to .94 ), as was Cronbach's Alpha of .94 (Scale $M=5.07, S D=1.77$ ). Items were coded and averaged such that higher scores indicated greater satisfaction.

## Relational Equity

Relational equity was assessed by combining three one-item measures: the Hatfield Global Equity Measure (HGEM; Hatfield, Utne, \& Traupmann, 1979),
the Sprecher Global Measure of Equity (SGME; Sprecher, 2001), and the Global Measure of Fairness (GMF; Sprecher, 2001). Each item includes a prompt and seven response options. For this study, references to one's "partner" were changed to "roommate" and the "roommate relationship" replaced "relationship." For example, the revised HGEM asks, "Considering what you put into your roommate relationship compared to what you get out of it, and what your roommate puts in compared to what $\mathrm{s} /$ he gets out of it, how does your roommate relationship 'stack up'?" Response choices include: "I am getting a much better deal than my roommate." "I am getting a somewhat better deal." "I am getting a slightly better deal." "We are both getting an equally good ... or bad ... deal." "My roommate is getting a slightly better deal." "My roommate is getting a somewhat better deal." "My roommate is getting a much better deal." (see Appendix E).

Hatfield, Utne, and Traupmann (1979) designed the HGEM to obtain a global assessment of relational equity across romantic relationship types. Sprecher (2001) created the SGME to accompany the HGEM and to "yield more variation in responses and to possibly be more sensitive to the assessment of mild and occasional forms of inequity" (p. 479). Finally, the GMF was also designed to elicit assessments of fairness (Sprecher, 2001). The original HGEM has been used widely (Stafford \& Canary, 2006; VanYperen \& Buunk, 1990), with good construct and face validity (Sprecher, 2001). Sprecher (2001) reported that the HGME and the SGME are significantly correlated ( $r=.45 ; p<.001$ ) and that the

GMF is associated with the HGME, the SGME, and a more detailed equity measure $(r \mathrm{~s}=.31$ to .74 ; all $p \mathrm{~s}<.001)$.

In this study, equity item correlations ranged from .39 to $.54 ; p<.001 ;$ item-to-total correlations were strong (.54 to .70); and Cronbach’s Alpha reliability was acceptable for a short scale $(\alpha=.71)($ Scale $M=4.33, S D=1.20)$. For this scale, the three items were averaged and were coded such that scores ranged from +3 to -3 , where positive scores indicate overbenefited, 0 indicates equitable, and negative scores indicate underbenefited.

## Conflict Frequency

To determine how often roommates disagree about domestic labor, this study used the two-item Conflict Frequency measure (CF; O'Colmain, 2007). Participants were asked "How often do you and your roommate have conflict about household tasks during a typical month?" and "How often do you and your roommate disagree about the way household tasks are being done?" Each item was accompanied by a seven-point scale ( $1=$ never; $7=$ constantly $)$. The CF items are internally reliable with a Cronbach's alpha of .87 (O'Colmain, 2007). A third question was added, "How frequently do you and your roommate argue with each other about household tasks during a typical month?" with the CF items to create a three-item measure (see Appendix F).

In this study, all three items were significantly correlated ( $r$ s ranging from .72 to $.77 p<.001$ ), item-to-total correlations were strong (. 84 to .87 ), and Cronbach's Alpha reliability was .90 (Scale $M=2.83, S D=1.59$ ). For this scale,
the three items were averaged to create a single mean score for each respondent, with higher scores indicating greater conflict frequency.

## Individual Gender Identity

The Bem Sex-Role Inventory Short Form, containing 30 items, assessed participant gender identity (BSRI; Bem, 1981). Participants indicated the degree to which they associate themselves with masculine, feminine, and neutral descriptions. Each item was accompanied by a seven-item Likert scale ( $1=$ never or almost never is true; $7=$ always or almost always true). The scale allows participants to independently rate masculinity and femininity. Responses allow the calculation of four gender categories: masculine, feminine, androgynous (both masculine or feminine), or undifferentiated (neither masculine or feminine) (Lenney, 1991). Ten terms reflect masculinity (e.g., "independent" and "assertive"), 10 terms reflect femininity (e.g., "affectionate" and "sympathetic"), and 10 terms are neutral fillers ("conscientious" and "moody") (see Appendix G). The BSRI short form is easier to administer than the long form (i.e., 30, compared to 60 , items) and is typically more reliable (Cronbach's alpha ranging from .84 to .87) (Campbell, Gillaspy, \& Thompson, 1997; Choi, Fuqua, \& Newman, 2009).

In this study, all but two of the masculine inter-item correlations were significant (significant $r$ s, ranging from .12 to $.56 ; p<.01$ ), item-to-total correlations were strong (.83 to .85), as was Cronbach's Alpha (.85) (Scale $M=$ 4.80, $S D=1.36$ ). The "independent" item did not correlate significantly with masculinity items of "forceful" or "aggressive." In the decades since the BSRI was developed, the gendered meaning of "independent" has likely shifted. As
more women work and occupy leadership positions in organizations, while simultaneously act as the head of household in single-parent families, these roles likely require considerable independence. In these contexts, "independence" reflects proficiency, shifting the term from masculine to gender-neutral. Furthermore, independence connotes more positive associations compared to forcefulness or aggressiveness. Although the independence item did not correlate as expected, given the long history of this scale, all items were retained for analyses.

All ten feminine items were significantly intercorrelated ( $r$ s ranging from .31 to $.66 ; p<.001$ ), item-to-total correlations were strong ( .88 to .90 ), as was Cronbach's Alpha (.90) (Scale $M=4.99, S D=1.34)$.

The gender scales are typically used to create four groups: masculinity, femininity, androgyny, and undifferentiated. To reach that end, average masculinity and femininity scores were calculated separately, and median splits performed $($ masculinity median $=4.8$; femininity median $=5.0)$. Masculine and feminine measures were then combined to create masculine (high masculinity, low femininity) $(n=91)$, feminine (low masculinity, high femininity) $(n=84)$, androgynous (high masculinity, high femininity) ( $n=141$ ), and undifferentiated (low masculinity, low femininity) $(n=149)$.

Time Spent Performing Domestic Labor
To determine how much time roommates spent completing domestic tasks, participants reported how many minutes they and their roommate spent, over the previous week, performing the six household tasks contained in the threshold
scales: cleaning the bathroom, dusting, doing dishes, picking up clutter, taking out the garbage, and vacuuming (see Appendix H). Time spent performing household labor was calculated by summing responses to all six items for each participant.

The proportion of the household labor performed by the participant was calculated by using the following formula:

Time comparison $=\quad$ Participant's total minutes spent Roommate's total minutes spent + Participant's minutes spent

## Chapter 3

## RESULTS

## Gender and Time Spent on Domestic Labor

Hypothesis one predicted that individuals who self-identify as being masculine will spend less time performing household tasks compared to individuals who self-identify as feminine. Additionally, hypothesis two predicted that individuals who self-identify as androgynous will spend less time performing household tasks compared to individuals who self identify as feminine, and more time performing household tasks compared to individuals who self-identify as masculine. In order to address hypotheses one and two together, a betweensubjects analysis of variance (ANOVA) was computed using the four gender groups as the independent variable and total minutes spent per week performing six household tasks as the dependent variable. Levene's test for equality of variance was nonsignificant, $F(3,462)=1.57, p=.20$.

The results of the ANOVA indicated a significant main effect for gender, $F(3,462)=5.43, p=.001$, power $=.82, \eta^{2}=.03$. To probe the significant main effect, a least squared difference (LSD) post-hoc test was conducted. A significant difference existed between undifferentiated and androgynous individuals (gender means reported in Table 1).

However, no other significant differences were found. Individuals with an undifferentiated gender spent the fewest number of minutes performing household tasks, followed by individuals with a feminine gender, individuals with a masculine gender, and androgynous gendered individuals spending the most
amount of time on household tasks. Therefore, based on this data, hypothesis one and two were not supported. In particular, feminine individuals actually spent less time performing household tasks compared to masculine individuals, and although this difference was not statistically significant, the trend is the opposite of what was expected. Furthermore, androgynous individuals spent more time than both feminine and masculine individuals, which was also unexpected.

Table 1
Gender Differences and Time Spent on Household Tasks

| Per Week (in Minutes) |  |  |  |
| :--- | :---: | ---: | ---: |
|  | Mean | Standard <br> Deviation | N |
| Undifferentiated | $82.42^{\mathrm{A}}$ | 69.71 | 150 |
| Feminine | $98.55^{\mathrm{AB}}$ | 62.35 | 84 |
| Masculine | $104.67^{\mathrm{AB}}$ | 65.45 | 91 |
| Androgynous | $114.44^{\mathrm{AB}}$ | 74.35 | 141 |
| Total | $99.36^{\mathrm{B}}$ | 70.08 | 466 |

## Biological Sex and Threshold Levels

Hypothesis three predicted that women have lower threshold levels compared to men. Variables were explored using a between-subjects ANOVA using sex as the independent variable and mess threshold scores as the dependent variable. Levene's test for equality of variance was nonsignificant $F(1,463)=$ $3.12, p=.08$.

Results of the ANOVA indicated a significant main effect for biological sex in relation to mess threshold $F(1,465)=20.23, p<.001$, power $=.97, \eta^{2}=$ .04. Women reported statistically significantly lower mess threshold levels ( $M=$ 3.57; $S D=1.43)$ compared to men $(M=4.15 ; S D=1.31)$, indicating they are
more bothered when tasks are left undone than men. Therefore, hypothesis three was supported.

## Gender and Threshold Levels

Hypothesis four predicted that individuals who self-identify as being feminine will have lower threshold levels compared to individuals who selfidentify as being masculine. Variables were explored using a between-subjects ANOVA using the four gender groups as the independent variable and mess threshold as the dependent variable Levene's test for equality of variance was nonsignificant $F(1,462)=1.69, p=.12$.

The results of the ANOVA indicated a significant main effect for gender in relation to mess threshold $F(3,466)=8.71, p<.001$, power $=.97, \eta^{2}=.05$. In order to probe the results further, post hoc LSD tests were performed (means reported in Table 2). In considering mess threshold, statistically significant differences were found between androgynous and both undifferentiated and masculine individuals. No statistically significant differences were found between other genders in regards to mess threshold. However, results indicate that androgynous individuals have the lowest threshold level (are most bothered by uncompleted tasks), followed by feminine, masculine, and then undifferentiated individuals have the highest threshold level. Although not statistically significant, feminine threshold scores were lower than masculine threshold scores for mess threshold. Therefore, some support was found for hypothesis four.

Table 2
Gender and Mess Threshold Level

| Gender | Mean | Standard <br> Deviation | N |
| :--- | :---: | ---: | ---: |
| Androgynous | $3.47^{\mathrm{A}}$ | 1.42 | 141 |
| Feminine | $3.77^{\mathrm{AB}}$ | 1.44 | 84 |
| Masculine | $4.14^{\mathrm{B}}$ | 1.30 | 91 |
| Undifferentiated | $4.23^{\mathrm{B}}$ | 1.28 | 150 |
| Total | 3.90 | 1.39 | 466 |

## Threshold Levels and Task Performance

Hypothesis five predicted that an individual with a lower threshold level compared to his/her household partner will spend more time completing household tasks than his/her living partner. A correlation was performed between threshold comparisons and time comparisons for household task performance to determine the relationship between these variables. A statistically significant negative correlation was identified $(r(459)=-.47, p<.001)$. This correlation indicates that the lower the participant's threshold level in comparison to his/her roommate, the more proportional time the participant spent performing domestic labor. Therefore hypothesis five was supported.

## Global and Specific Threshold Measures

Research question one asks if there is a difference in participant's global threshold level and threshold levels for individual tasks. Essentially, this question asks if individual threshold levels triggered when tasks in general are not completed, or are individual threshold levels related only to specific tasks (i.e. dirty dishes, smelly trash, etc.). Therefore, a factor analysis (i.e., principal
components analysis with Varimax rotation) was performed on the Mess Threshold Level (six specific and one global item).

Only one factor emerged, indicating that the items (both global and specific) all measure a single component $(\mathrm{KMO}=.91$, Bartlett's test of Sphericity, $\left.\chi^{2}=1880.04, p<.001\right)$. Furthermore, as indicated in the discussion of this measure earlier, all Mess Threshold Level items were significantly correlated ( $r=.44$ to $.73 ; p<.001$ ), item-to-total correlations were strong ( .89 to .91 ), and Cronbach's Alpha reliability was .91 (Scale $M=3.88, S D=1.71$ ). Therefore, the global item appears to be identifying the same dimension as the specific items.

## Threshold Level and Relational Equity

Hypothesis six predicted that individuals who identify a discrepancy between their threshold level and their perception of their roommate's threshold level will experience lower overall relational equity. A correlation was performed between the absolute value of threshold comparisons (such that larger numbers correspond to larger discrepancies) and relational equity (positive scores indicate overbenefited, 0 indicates equitable, and negative scores indicate underbenefited). A statistically significant positive correlation was identified $(r(458)=.29, p<$ .001), indicating that as threshold level differences increase, perceptions of relational equity also increase. Therefore, hypothesis six was not supported, and in fact, the opposite of the prediction was found.

To explore this finding, an additional correlation using the actual value of threshold comparisons (both positive and negative) and relational equity was
conducted. In this case, a statistically significant negative correlation was identified $(r(458)=-.31, p<.001)$. Therefore, the direction of difference, but not difference alone, impacts perceptions of relational equity, with those who have higher thresholds in comparison with their roommates experiencing more relational equity than those who have lower thresholds in comparison with their roommates.

The second research question asks about the relationship between differences in threshold levels (equal, lower, or higher) on equity levels. In order to address this research question, variables were explored using a betweensubjects ANOVA using equity ( $1=$ underbenefited, $2=$ equitable, $3=$ overbenefited) as the independent variable and mess threshold level as the dependent variable Levene's test for equality of variance was nonsignificant $F(2$, $462)=1.88, p=.15$.

The results of the ANOVA indicated a significant main effect for equity assessment in relation to mess threshold $F(2,465)=7.50, p=.001$, power $=.83$, $\eta^{2}=.03$. In order to probe the results further, post hoc LSD tests were performed (means reported in Table 3). In considering mess threshold, statistically significant differences were found between overbenefited and both underbenefited and equitable. No statistically significant differences were found between equitable and underbenefited individuals. Contrary to what one might expect, mess threshold levels are the lowest for overbenefited individuals (indicating they are most bothered by undone tasks), followed by equitable, and finally underbenefited individuals.

Table 3
Equity and Individual Threshold Levels

| Equity | Mean | Standard <br> Deviation | N |
| :--- | :---: | ---: | ---: |
| Underbenefited | $4.17^{\mathrm{A}}$ | 1.37 | 104 |
| Equitable | $4.08^{\mathrm{B}}$ | 1.48 | 157 |
| Overbenefited | $3.62^{\mathrm{B}}$ | 1.28 | 204 |
| Total | 3.90 | 1.39 | 465 |

## Threshold Discrepancy and Relational Satisfaction

Hypothesis seven predicted that participants who identify a discrepancy between their threshold level and their perception of their roommate's threshold level will experience lower perceived relational satisfaction. A correlation was performed between the absolute value of threshold comparisons in order to identify difference as a positive number and relational satisfaction. A statistically significant negative correlation was identified $(r(459)=-.31, p<.001)$, indicating that as threshold level differences increase, perceptions of relational satisfaction decrease, supporting hypothesis seven.

## Individual Threshold Levels and Relational Satisfaction

Research question three asks how individual threshold levels relate to relational satisfaction. Correlations were performed between mess threshold level and relational satisfaction measures. A statistically significant positive correlation was identified $(r(464)=.15, p=.001)$, indicating that as individual threshold levels increase, relational satisfaction also increases.

## Threshold Discrepancy and Domestic Labor Conflict Frequency

Hypothesis eight predicted that participants who identify a discrepancy between their tolerance threshold level and their perception of roommate's threshold level will experience greater conflict frequency over household tasks. A correlation was performed between the absolute value of threshold comparisons (in order to identify difference as a positive number) and conflict frequency over household tasks. A statistically significant positive correlation was identified $(r(459)=.24, p<.001)$, indicating that as threshold level differences increase, conflict regarding household tasks also increases, supporting hypothesis eight.

## Equity and Domestic Labor Conflict Frequency

Research question four asks how underbenefited, equitable, and overbenefited participants differ in relation to conflict frequency over the division of domestic labor. A between-subjects ANOVA using equity assessment as the independent variable and conflict frequency as the dependent variable was used to explore research question four. Levene's test indicated that homoscedasticity assumptions were not violated $F(2,462)=2.27, p>.01$. ANOVA results indicated a significant main effect for equity in relation to conflict frequency $F(2$, $465)=14.51, p<.001$, power $=.99, \eta^{2}=.06$.

In order to probe the results further, post hoc LSD tests were performed (means reported in Table 4). In considering conflict frequency, statistically significant differences were found between equitable and both underbenefited and overbenefited. No statistically significant differences were found between underbenefited and overbenefited individuals. Based on these results, greater
conflict frequency is related to inequity, whether an individual is overbenefited or underbenefited.

## Table 4

Equity Assessment and Conflict Frequency

| Equity Assessment | Mean | Standard <br> Deviation | N |
| :--- | :--- | ---: | ---: |
| Underbenefited | $3.09^{\mathrm{A}}$ | 1.51 | 104 |
| Equitable | $2.36^{\mathrm{B}}$ | 1.31 | 157 |
| Overbenefited | $3.11^{\mathrm{A}}$ | 1.42 | 204 |
| Total | 2.85 | 1.45 | 465 |

## Relational Satisfaction and Domestic Labor Conflict Frequency

Research question five asked about how relational satisfaction relates to conflict frequency over the division of domestic labor. A correlation was performed between relational satisfaction and conflict frequency to determine the relationship between these variables. A statistically significant negative correlation was identified $(r(464)=-.43, p<.001)$ indicating that relational satisfaction decreases as conflict over domestic labor increases.

## Chapter 4

## DISCUSSION

This study tested the integrative theory of the division of domestic labor in order to determine how individual threshold levels related to relational equity, satisfaction, and conflict frequency. Of particular interest was how gender and biological sex related to individual threshold levels and the division of domestic labor.

## Gender and the Division of Domestic Labor

Gender theories have received the most support in division of domestic labor research and indicate that the performance of household tasks occurs based on enactment of femininity or masculinity (Alberts, et al., 2001). According to this line of theoretical research, women perform femininity by taking on stereotypical feminine tasks and completing them in such a way that the tasks seem "natural" or effortless (Mederer, 1993; West \& Zimmerman, 1987). In contrast, men resist performing feminine tasks and take on less frequently occurring masculine tasks such as home repair and yard work (Blair \& Lichter, 1991; Natalier, 2003). Because feminine tasks are repetitive and performed frequently, where masculine tasks require less time because they occur less regularly or sporadically (Blair \& Lichter, 1991), one would expect that feminine individuals would spend more time on domestic tasks.

However, contradictory to hypotheses one and two that predicted that masculine individuals would spend the least amount of time, followed by androgynous individuals, and feminine individuals spending the most time on
domestic labor, the data reported in this study suggest a different relationship. In fact, individuals who indicated high masculinity spent slightly more time than individuals reporting high femininity in completing the following five household tasks: cleaning the bathrooms, doing dishes, picking up clutter, taking out the garbage, and vacuuming. Furthermore, individuals who identified themselves as androgynous (both high masculinity and femininity) indicated they spent the greatest amount of time on domestic tasks. Therefore, as indicated in table one, individuals with masculine characteristics reported spending more time on domestic labor than individuals without them.

Several explanations for this finding are possible. First, since this study examined same-sex roommates, rather than mixed sex romantic couples, masculine individuals in these households might take on household tasks based on necessity, rather than adhering to highly gendered scripts and resisting tasks. Past research also suggests that same-sex roommates are particularly sensitive to norms of fairness among roommates (Riforgiate, 2007). Therefore, for masculine individuals, ideals of fairness might trump gendered ideas of task performance. This may result in masculine individuals spending more time performing tasks to be fair, rather than refusing to complete tasks to be seen as masculine. It is also possible that "equality" or "fairness" is a masculine characteristic.

A second explanation is that masculine individuals may report time differently than do feminine individuals. In particular, if performing femininity means making task performance look (and seem) effortless (Mederer, 1993), feminine individuals might underestimate the time they spend taking care of
household tasks because they perform them frequently and are unaware of the actual time the tasks take. In addition, feminine individuals might have developed a competency for task performance, so they are able to spend less time on the task and still accomplish the same amount of work (Alberts, et al., 2011). Concomitantly, masculine individuals might over-report time spent on tasks because the tasks require more effort and seem more cumbersome to them.

A final explanation is that traditional gender roles may have shifted or are possibly being contested for this generation of young adults. For example, the masculine term "independent" on the Bem Sex-Role Inventory Short-Form did not have a significant correlation with two other masculine terms ("forceful" and "aggressive"). Both "forceful" and "aggressive" are terms that imply getting one's way and seem to go against focus group findings that same sex roommates value "equal" or "fair" domestic task distribution (Riforgiate, 2007). However, "independent" is a term that seems to imply standing on one's own, which would compliment the idea of "fair" task distribution where each household member should be responsible for his/her own mess.

Also, as previously discussed, "independent" might be perceived as being more of a neutral, less differentiated term, based on the changing role of women in the workplace and as head of household in many single parent families. Furthermore, past research based on a college population indicated almost equal category distribution among participants, with $23.5 \%$ undifferentiated, $25 \%$ androgynous, $25 \%$ feminine, and $26.5 \%$ masculine (Bem, 1977 as cited by Robinson, Shaver, \& Wrightsman, 1991). In contrast, this study had much larger
undifferentiated (32.2\%) and androgynous (30.2\%) categories, compared to feminine (18\%) and masculine (19.5\%) categories. If college students are indicating either low identification with both feminine and masculine characteristics, or high identification with both feminine and masculine characteristics, it might mean that these characteristics are not as descriptive of femininity and masculinity as they once were.

Gender was also implicated in hypothesis four, which predicted that feminine individuals would have a lower threshold level (be more bothered when a task is uncompleted) compared to masculine individuals. Partial support was found for this hypothesis, in that feminine individuals' threshold levels were slightly lower, but not statistically significantly lower, than masculine individuals. The data pattern indicates that individuals with above average femininity (androgynous and feminine) had lower threshold levels than people with below average femininity (masculine and undifferentiated). However, because there was not a statistically significant difference between masculinity and femininity for threshold levels, it is quite possible that sex difference, rather than gender, is the driving factor in division of domestic labor. Sex differences are frequently reported as gender differences, conflating the usefulness of this distinction in existing research (Allen, 1998; Canary \& Dindia, 1998).

## Sex Differences and the Division of Domestic Labor

Hypothesis three was supported; women reported significantly lower thresholds for domestic labor (to be more bothered when a task is uncompleted) than men. This finding is interesting in that, although both sex and gender
differences were in the predicted direction, biological sex differences were statistically significant, where masculinity and femininity were not. More research that carefully differentiates the variables of sex and gender would be beneficial in determining the predictive value of each variable.

In addition, the finding that biological sex is related to individual threshold levels offers support for the ITDDL. The theory contends that biological sex differences are an important factor that impact individual behavior and threshold levels over time (Alberts, et al., 2011). As previously discussed, women might be more sensitive to dirt and dust, making them feel compelled to perform household tasks sooner than men.

The difference in men and women's threshold levels are particularly important when considering that one common excuse used to resist domestic task performance is that household tasks are performed based on personal preference or "choice" (Chethik, 2006; Hochschild, 1989). According to this resistance logic, those who perform fewer tasks simply do not choose the same living standard as their household partner; This idea of choice relieves those who contribute less from feeling guilty or obligated to perform tasks, while simultaneously removing the need to express gratitude if their housemate chooses a different standard of cleanliness and spends more time cleaning (Alberts, et al., 2011).

However, data in this study suggest that on some level there is a biological sex difference that triggers individuals to feel bothered when a task is not complete. Since real differences in threshold levels exist, this calls in to question the idea that performing household tasks is a "choice," rather than an irritant that
one feels compelled to act on. It is quite possible that individuals with lower threshold levels perform tasks to reduce how bothered they feel by the uncompleted task, rather than "choosing" to clean or because they enjoying cleaning.

## Individual Threshold Levels and the Division of Domestic Labor

Hypothesis five further supports the ITDDL. This hypothesis predicted that individuals with a lower threshold level would spend more time completing household tasks, and the data support this claim, explaining $22.09 \%$ of the variance. As Alberts et al. (2011) explain in their theory, individuals with a lower threshold level will be more bothered when a task is not completed, and will respond by completing the task. Over time, individuals with lower threshold levels will complete tasks more frequently and will develop task related skills. Furthermore, individuals will end up performing the task often enough that the task becomes their "job" rather than work that other household partners need to feel grateful for. Although each step in this theoretical explanation was not tested in this study, the fact that threshold level directly relates to behavior (time spent performing tasks) is an important first step in support of the ITDDL.

Because threshold level directly relates to the time spent on household tasks, it is likely that individuals with lower threshold levels are performing tasks more frequently and repetitively. Even though individuals with a low threshold level likely develop skills to make task performance more efficient, task efficiency is not enough to reduce overall time spent on tasks. This is important because it is likely that individuals with a low threshold level have adopted
certain tasks as their personal responsibility and taken ownership of these tasks (Alberts, et al., 2011).

Research question one sought to determine if a difference exists in individual threshold levels for specific tasks compared to a global threshold measure. Based on the factor analysis of these data, the measures for specific tasks were all highly correlated with each other and with a global item measure. Therefore, it appears that individual threshold levels are not highly task specific, but rather that individuals are bothered in general and by specific tasks similarly.

This finding is interesting because focus group data in previous research indicates that some individuals have specific tasks that are more important to them than others, such as clean bathrooms, kitchen sinks, and common/public areas (particularly in regards to odor) (Riforgiate, 1997). It might be that having a specific important task is a sign of a low threshold. In addition, it is possible that specific tasks come to mind as most important, but an overall standard of cleanliness is expected for individual threshold levels. In fact, a specific task might be more salient to focus group participants because other roommates are not attending to the task and the participant has to take ownership rather than divide the task responsibilities. In addition, since specific and global items were asked in the same question set, participants might have thought about specific tasks, triggering an overall assessment that included those tasks in the general measure.

## Relational Equity Perceptions and Threshold Level Comparison

Given that individual threshold levels are correlated with time spent completing household tasks, it is important to determine how an individual's threshold level compared to his/her roommate's threshold level impacts the relationship in regards to perceptions of relational equity. If an individual has a low threshold level and is spending more time performing tasks, it is quite possible he/she is contributing more to the relationships than is fair and feels that the relationship is not equitable. As VanYyperen \& Buunk (1990) indicated, household chores are one important factor influencing individual's perceptions of overall equity in the relationship.

Therefore, hypothesis six addressed differences in threshold level of roommates by considering how these differences correlated with participant perceptions of relational equity. This hypothesis predicted that as differences in threshold levels between roommates increased (using absolute value), regardless of whether an individual was overbenefited or underbenefited, participants would indicate the relationship was less equitable. Contrary to what was predicted, data indicated a positive correlation, such that as differences increased, perceptions of relational equity also increased. Although these results are opposite of the expected relationship, the data account for $8.41 \%$ of the variance. Considering many factors go in to equity perceptions, this is a fairly important factor for same sex roommates when assessing their relationship.

Several explanations for the unexpected finding are possible. First, as individuals recognize that their roommate is different from them (with either
lower or higher threshold levels), they might also be more aware and grateful for the concessions that the roommate makes to the relationship. For example, if a participant has a low threshold level (more bothered by uncompleted tasks) and is paired with a roommate with a higher threshold level (less bothered by uncompleted tasks), the participant might acknowledge that the roommate doesn't feel the tasks are important but completes them anyway, leading to more participant gratitude and greater perceptions of equity.

An alternative explanation is that a participant with a higher threshold might see the household task performance of their lower threshold roommate as a personal choice, so the participant would not feel any need to reciprocate task performance. If cleaning is by choice, then there is no reason to perceive an inequity in regards to domestic labor contributions, which would explain why even if there is a large difference in threshold level, these individuals might justify their actions and see the relationship as equitable.

In order to better determine what was occurring in regards to equity, an additional follow up test, using actual rather than absolute values for threshold differences was conducted. This test explained $9.61 \%$ of the variance and a negative correlation was identified, such that participants who reported a lower threshold compared to their roommate (participant more bothered by uncompleted tasks than roommate) also indicated the highest perceived relational equity, while individuals who reported a higher threshold compared to their roommate (less bothered by uncompleted tasks than their roommate) indicated the lowest perceived relational equity. One would expect the individual who has the lower
threshold would feel compelled to perform more domestic labor, while noting that their larger contribution seemed inequitable, but the opposite was found.

First, it is possible that same-sex roommates perceive household contributions differently than romantic couples used in a majority of the equity research. Because participants were aware that they could easily leave the roommate arrangement, their commitment to running the household might be more tentative, causing more justifications to balance any perceptions of inequity and maintain their roommate relationship. In addition, same-sex roommates in previous research indicated that they believed each roommate was responsible for cleaning and maintaining his/her own space and picking up his/her own messes (Riforgiate, 1997). This might mean that participants who acknowledged that they were more bothered than their roommate felt that domestic labor was an issue of personal preference and choice, rather than an equity issue. Participants with a low threshold level might also be more aware of roommate contributions, because they don't expect their roommate to be as clean as they are, and therefore are more grateful for the (relatively few) contributions that are made.

On the other hand, participants who have a higher threshold level (less bothered than their roommate by uncompleted household tasks) might experience lower perceptions of equity because they feel they must clean based on their roommate's standards, rather than their own. Because the uncompleted tasks would not bother them, but they know that their roommate would be bothered, they might feel "put out" to complete tasks or perhaps they simply perform domestic labor to avoid confrontation or conflict. If this is the case, that would
explain why individuals with higher thresholds in comparison to their roommates indicate less perceived equity, particularly if they are constantly needing to accommodate their roommate by going above and beyond what they feel is needed in regards to household tasks.

Finally, the equity measures used in this study are a global measurement of relational equity (Hatfield, Utne, Traupmann, 1979; Sprecher, 2001). Considering that measures of threshold level differences $(-3$ to +3 measure and absolute measure) explain between $8.4 \%$ and $9.6 \%$ of the variance in perceptions of global equity, difference in threshold levels between roommates specific to domestic labor do have an important bearing on perceptions of relational equity and are worthy of consideration for future research.

## Individual Threshold Levels and Relational Equity

It is also important to consider how individual thresholds relate to equity. Research question two asks about the relationship between differences in threshold levels (equal, lower, or higher) on equity levels. Results indicate that individuals who perceive themselves as being underbenefited also have the higher threshold levels (least bothered by undone household tasks) compared to equitable and overbenefited individuals. This is interesting because one might expect overbenefited individuals to have higher threshold levels, making them less likely to complete tasks and providing a basis to feel that they are receiving more in the relationship; however, this is not the case according to the results.

One explanation for these findings is that individuals with high thresholds might discount their roommate's contributions to domestic labor in a variety of
ways, allowing them to maintain a feeling of being underbenefited. For example, individuals with a high threshold might never notice that task performance has occurred because the tasks never reach a level that bothers them enough to act. In essence, they might not "smell the trash," "see the dust," or "run out of dishes," so they don't recognize that the task has been done at all. If this is the case, individuals with a high threshold are not likely to see their roommate's contributions to household tasks at all and certainly not classify roommate's task performance as a gift. Therefore they do not feel overbenefited or even equitable because they see no benefit to their roommate's behavior.

Another possible explanation is that low threshold individuals see cleaning as a choice, and therefore not something that they should be grateful to their roommate for cleaning contributions. As explained above, low threshold individuals might even feel like they have to do "extra" work to accommodate their roommate's cleanliness preferences, making them feel like they are getting the worse deal in the relationship and are underbenefited.

Whereas, individuals with a low threshold (more bothered by uncompleted household tasks) might be more perceptive in recognizing when household tasks are completed, leading to more acknowledgement and expression of gratitude. In addition, low threshold individuals might take note of their roommate's "effort" to accommodate their cleanliness preferences, prompting feelings of overbenefitedness.

Additionally, although threshold levels are important in explaining perceptions of equity, other behaviors might make up for differences. For
example, the participant might clean more, but his/her roommate allows him/her to use their car to go to the grocery store and run errands. Another relational explanation might be that the participant feels that his/her roommate cleans more, but in return he/she puts up with extended visits from the roommate's romantic partner. Therefore, even if an inequity exists in regards to household contributions, other instrumental and emotional exchanges might be made to make the relationship feel more equitable.

## Equity and Conflict Frequency Over the Division of Domestic Labor

Because threshold level comparisons and individual threshold levels are important to relational equity, it is also interesting to consider how perceptions of equity relate to conflict frequency over the division of domestic labor. Research question four asks how underbenefited, equitable, and overbenefited participants differ in relation to conflict frequency over the division of domestic labor. The data indicate that underbenefited and overbenefited individuals report that they experience significantly more conflict frequency than equitable individuals. This is particularly interesting that domestic labor as a specific conflict topic relates to global perceptions of equity in roommate relationships. While research suggests that conflict frequency is not as important as conflict intensity and management strategies (Cupach \& Canary, 1997), this study indicates that frequency is related to perceptions of equity.

## Relational Satisfaction and Threshold Level

Since existing research indicates that perceptions of inequity reduce assessments of relational satisfaction (Stafford \& Canary, 2006), it is also
important to explore how threshold levels are related to relational satisfaction. Hypothesis seven predicted that as differences in threshold levels increased, individuals would experience less relational satisfaction. Data support this hypothesis and account for $9.61 \%$ of the variance, indicating that roommates with similar threshold levels report greater satisfaction compared to roommates with differing threshold levels. This finding is consistent with the ITDDL, in that roommates with similar threshold levels are likely to share household responsibilities and recognize each other's contributions.

When considering individual threshold levels relative to relational satisfaction, research question three asks how individual threshold levels relate to relational satisfaction. The results indicate that as threshold levels increase, relational satisfaction also increases and explains $2.25 \%$ of the variance. Therefore, individuals with a high threshold level (not bothered when household tasks remain undone) seem to be most satisfied with their relationships. One explanation for this finding is that high threshold individuals might be more laid back in regards to household tasks either because they don't recognize the tasks need to be completed, or they simply don't care if the tasks remain uncompleted. In either case, they might find themselves more satisfied with their roommate because they are not as concerned with domestic labor. It would be interesting to explore if personality type is related to threshold levels.

Furthermore, individuals with a low threshold level were found to be less relationally satisfied. Perhaps, since low threshold individuals are more bothered by disorder, it might be more difficult for them to adjust to the living patterns of a
roommate who might not share their threshold level. Furthermore, low threshold individuals might feel they need to be more conscientious of their living partner, which might result in extra effort towards maintaining the relationship.

Regardless of if extra effort is actually needed or simply perceived, it might mean that low threshold individuals contribute and expect more, potentially influencing their satisfaction with their roommate negatively.

In addition, individual threshold levels and satisfaction might have such a low variance because roommate relationships for college students are relatively short and can be ended more easily than romantic cohabitating or married couples. Furthermore, college students who are assigned to room together might see their relationship as satisfactory as long as everyone takes care of their own belongings and conflict is minimal.

## Relational Satisfaction and Conflict Frequency Over the Division of Labor

Research question five asks how relational satisfaction relates to conflict frequency over the division of domestic labor. Correlations of the data demonstrate that as conflict frequency increases, relational satisfaction decreases, explaining $18.49 \%$ of the variance. Coupled with the findings above in regards to threshold level differences and relational satisfaction, it makes sense that if threshold levels are similar, roommates will likely experience less conflict and be more relationally satisfied.

## Conflict Frequency Over the Division of Labor and Threshold Level Comparison

Finally, in addition to conflict frequency and relational variables, it is also important to consider how threshold level differences over the division of
domestic labor directly relate to conflict frequency. The ITDDL contends that differences in household partners individual threshold levels drive task performance and communication behaviors (Alberts et al., 2011). If differences in threshold levels exist, individuals are likely to experience more conflict over the division of domestic labor.

Therefore, hypothesis eight predicted that participants who perceived a discrepancy between their own and their roommate's threshold level would experience greater conflict frequency over household tasks. This hypothesis was supported. Results explained $5.76 \%$ of the variance and indicated that the larger the threshold level discrepancy between roommates, the more frequently conflict occurred with his/her roommate over this issue.

## Implications, Limitations, and Future Directions

This study adds to scholarly understanding of the division of domestic labor in myriad ways, offering both theoretical and practical implications for future research. In addition, results provide a basis for future research of the ITDDL and communication practices that might reduce conflict frequency, while increasing perceptions of relational equity and satisfaction.

## Theoretical Implications

First, this study sought to test the ITDDL by exploring how individual threshold levels related to household task performance. In support of the theory, threshold levels did relate to time spent performing tasks. Furthermore, the theory asserts that small biological differences between men and women influence threshold levels and task performance. As demonstrated in this study, this
assertion bore out, indicating that women do have significantly lower threshold levels than men. Finally, this study supported the idea that threshold differences are related to conflict frequency. Therefore, several findings supported the ITDDL and provide a basis for future testing of the components of this theory. Another theoretical implication is the need to re-examine the variable of gender in regards to the division of domestic labor research. Although findings for masculinity and femininity among same-sex roommates in regards to threshold level and time spent on household tasks were in the hypothesized direction, the differences were not statistically significant. Furthermore, more participants indicated androgynous or undifferentiated identification than in past research studies. It is possible that same-sex roommates in the early $21^{\text {st }}$ century do not adhere to gendered scripts in the same way that mixed-sex romantic couples do. However, it is also possible that much of the existing research conflates the terms sex and gender, making differentiation of these variables tenuous at best. Future research should carefully consider how variables are labeled and tested in regards to sex and gender.

Further, this study calls in to question the conceptualization of gender according to the BSRI. Although items were correlated, the number of individuals who perceived themselves as androgynous and undifferentiated was much higher than expected (approximately 62.4\%). Considering that this sample consisted of college students, similar to the initial testing of the BSRI, changes in the gender category size is noteworthy. Furthermore, not all items on the masculine scale were significantly correlated. It is possible that perceptions of
gender and gendered expectations have shifted since the scale's development and testing in the late 1970s. Increasing percentages of women and women with children in the workplace, as well as the increase of women in leadership roles in organizations likely is influencing future generations of women who espouse more "masculine" characteristics in order to compete in the business world. Furthermore, women's roles in families as breadwinners and heads of household likely have shifted perceptions of masculinity and femininity as well. Given these considerations, further testing and development of this scale is needed to confirm the utility of this instrument in regards to measuring gender.

In addition, this study further developed and tested measures of individual threshold levels and threshold level comparisons. Both instruments demonstrated high reliability and item-to-total correlations, providing tools to use in future research studies.

## Practical Implications

In addition to the theoretical implications, this study also has practical implications. Findings indicate that roommates with more similar threshold levels experience less conflict than roommates with differing threshold levels. The measures of threshold level and threshold level differences can be practically applied in the pairing of college roommates to reduce potential conflict. In addition, alerting individuals about potential conflict over domestic tasks and providing them with training to identify threshold levels, develop explicit cleaning allocations, and constructively handle conflict would be beneficial for their time in college and future relationships.

Also, family practitioners and communication scholars can share the information on threshold levels with household partners in order to generate discussion and understanding of how threshold levels can drive behavior and influence relational satisfaction and equity. In particular, discussion of threshold levels can allow household partners to re-evaluate how predispositions for cleanliness might not simply be a matter of "choice" driving domestic performance. Understanding that threshold levels make a difference in task performance can generate discussion in couples, allowing them to come to more objective solutions, potentially reducing conflict.

## Limitations and Future Directions

Although this study offers important findings and implications for the ITDDL and division of labor research in general, it is not without limitations. One strength of this study was that college students were purposefully selected, rather than chosen as a convenience sample. By targeting college roommates, this study tested threshold levels and is able to offer valuable information to universities for roommate pairing. Although the study sought to measure threshold levels in same-sex roommates, it would have been helpful to expand this study to a wider demographic sample, allowing for inclusion of young adults who were not in college. Non-college, working individuals might be in a different socioeconomic class, creating different stressors in regards to household tasks. However, because one of the primary objectives of this study was to develop and test threshold measures to use to reduce roommate conflict among
college students, this provides a foundational study to build upon from a wider demographic sample.

Furthermore, the majority of domestic labor research considers white, middle to upper class individuals (for an exception refer to Dillaway \& Broman, 2001). Because of the way this study was conducted, the majority of the participants were predominantly white. Again, the sampling was intentional, but future research would benefit from a more ethnically and/or racially diverse sample. For example, Dillaway and Broman (2001) report that African American romantic couples divide domestic labor differently than white romantic couples, in that the African American men take on more responsibilities for household tasks. It would be interesting to see how threshold levels are related to variables other than sex and gender in future research.

Given of the complexity of the theory, more research is needed to connect threshold levels to dyadic-divergent behavior and economies of gratitude. Dyadic-divergence occurs when an individual completes a task, therefore removing the stimulus for other people in the household to complete the task, resulting in patterned behavior and task specialization over time (Alberts, et al., 2011). Dyadic-divergence is related to gratitude in that once an individual repeatedly performs a task, it becomes their "job" or responsibility so others in the household are less likely to recognize the work or express gratitude (Alberts, et al., 2011). In particular, it would be useful to collect dyadic data to see how one person's threshold level interacts directly with another household partner in the performance of household tasks.

Additionally, it would be fruitful to look at sex and gender together to see if there is an interaction effect between these two variables and threshold levels. In particular, do men who self identify as masculine have lower threshold levels than women who self-identify as feminine? How is task performance influenced simultaneously by sex and gender? How do sex and gender interact in regards to conflict behavior over the division of domestic labor? For example, are masculine men more likely to engage in conflict compared to feminine women? Future exploration of these variables will help to further develop the ITDDL and assist in explaining domestic labor behavior.

Finally, communication scholars are particularly well suited to use the ITDDL to develop and test communication strategies to negotiate or re-allocate domestic tasks. For example, increasing understanding of threshold levels between household partners might allow individuals to divide tasks based on equitable arrangements. It would also be interesting to test social influence strategies, such as cognitive dissonance theory, to evoke changes in task allocation based on perceptions of fairness and equity.

Considering the impact that the division of domestic labor has on relationships (Chethik, 2006), health (Bird, 1999), and organizations (Hewlett, 2007; Hochschild, 1997), it makes sense to continue pursuing theories that explain how tasks are divided both implicitly and explicitly. Communication scholars in particular have the ability to use this information in developing strategies for household partners to develop equitable and satisfying relationships.

## REFERENCES

Alberts, J. K., Trethewey, A., \& Tracy, S. J. (2011). An integrative theory of the division of domestic labor: Threshold level, social organizing and sensemaking. Journal of Family Communication, 11, 21-38.

Alberts, J. K., Trethewey, A., \& Tracy, S. J. (2006). Social networks and economic theories of gratitude: (Re)theorizing the division of domestic labor. Presented at the National Communication Association Conference, San Antonio, TX.

Allen, M. (1998). Methodological considerations when examining a gendered world. In D. J. Canary \& K. Dindia (Eds.), Sex differences and similarities in communication: Critical essays and empirical investigations of sex and gender in interaction (pp. 427-442). Mahwah, NJ: Lawrence Erlbaum and Associates.

Baxter, J. (2005). To marry or not to marry: Marital status and the division of labor. Journal of Family Issues, 26, 300-321.

Baxter, J., Hewitt, B., \& Western, M. (2005). Post-familial families and the domestic division of labor. Journal of Comparative Family Studies, 36, 583-600.

Bem, S. L. (1981). Bem sex-role inventory: Professional manual. Palo Alto, CA: Consulting Psychologists Press.

Bird, C. E. (1999). Gender, household labor and psychological distress: The impact of the amount and division of housework. Journal of Health and Social Behavior, 40, 32-45.

Blair, S. L., \& Lichter, D. T. (1991). Measuring the division of household labor: Gender segregation of household work among American couples. Journal of Family Issues, 12, 91-113.

Bryant, J. A., \& Bryant, J. (2006). Implications of living in a wired family: new directions in family and media research. In L. H. Turner \& R. West (eds.) The family communication sourcebook (pp. 297-314). Thousand Oaks, CA: Sage.

Campbell, T., Gillaspy, J. A., \& Thompson, B. (1997). The factor structure of the Bem sex-role inventory (BSRI): Confirmatory analysis of long and short forms. Educational and Psychological Measurement, 57, 118-124.

Canary, D. J., \& Dindia, K. (1998). Prologue: Recurring issues in sex differences and similarities in communication. In D. J. Canary \& K. Dindia (Eds.), Sex differences and similarities in communication: Critical essays and empirical investigations of sex and gender in interaction (pp. 1-17). Mahway, NJ: Lawrence Erlbaum and Associates.

Canary, D. J., \& Emmers-Sommer, T. M. with Faulkner, S. (Ed.) (1997). Sex and gender differences in personal relationships. New York, NY: Guilford.

Chethik, N. (2006). VoiceMale: What husband really think about their marriages, their wives, sex, housework and commitment. NY: Simon \& Schuster.

Choi, N., Fuqua, D. R., \& Newman, J. L. (2009). Exploratory and confirmatory studies of the structure of the Bem sex role inventory short form with two divergent samples. Educational and Psychological Measurement, 69, 696705.

Cialdini, R. B. (2009). Influence: Science and practice ( $5^{\text {th }} \mathrm{Ed}$.). Boston, MA: Pearson.

Clayton, M. (2001). You may wonder why we brought you together... Christian Science Monitor, 93, 14.

Coladarci, T., Cobb, C. D., Minium, E. W., \& Clarke, R. C. (2008). Fundamentals of statistical reasoning in education (2nd ed.). Hoboken, NJ: Wiley.

Coltrane, S. (2000). Research on household labor: Modeling and measuring the social embeddedness of routine family work. Journal of Marriage and Family, 62, 1208-1233.

Coltrane, S. (2004). Elite careers and family commitment: It's (still) about gender. Annals AAPSS, 596, 214-220.

Cubbins, L. A., \& Szaflarski, M. (2001). Family effects on self-reported health among Russian wives and husbands. Social Sciences and Medicine, 53, 1653-1666.

Cupach, William R., \& Canary, D. J. (1997). Competence in interpersonal conflict. Long Grove, IL: Waveland Press.

Davis, S. N., Greenstein, T. N., \& Gerteisen-Marks, J. P. (2007). Effects of union type on division of household labor: Do cohabitating men really perform more housework? Journal of Family Issues, 28, 1246-1272.

Dempsey, K. (2002). Who gets the best deal from marriage: Women or men? Journal of Sociology, 38, 91-110.

Dillaway, H., \& Broman, C. (2001). Race, class, and gender differences in marital satisfaction and divisions of household labor among dual-earner couples: A case for intersectional analysis. Journal of Family Issues, 22, 309-327.

Dusselier, L., Dunn, B., Wang, Y., Shelley, M. C., \& Whalen, D. F. (2005). Personal, health, academic, and environmental predictors of stress for residence hall students. Journal of American College Health, 54, 15-24.

Erbert, L. A. (2000). Conflict and dialectics: Perceptions of dialectical contradictions in marital conflict. Journal of Personal and Social Relationships, 17, 638-659.

Erickson, R. J. (2005). Why emotion work matters: Sex, gender, and the division of household labor. Journal of Marriage and Family, 67, 351-377.

Folbre, N. (2005). Eliminating economic penalties on caregivers. In J. Heymann \& C. Beem (Eds.) Unfinished work: Building equality and democracy in an era of working families (pp. 348-370). New York: The New Press.

Greenstein, T. N. (1996). Husbands' participation in domestic labor: Interactive effects of wives and husbands' gender ideologies. Journal of Marriage and the Family, 58, 585-595.

Gottman, J. M. (1994). Why marriages succeed or fail. New York: Simon \& Schuster.

Hardigg, V., \& Nobile, C. (1995). Living with a stranger. U.S. News \& World Report, 12, 90-91.

Hardy, E., Orzek, A., \& Heistad, S. (1984). Learning to live with others: A program to prevent problems in living situations. Journal of Counseling and Development, 63, 110-113.

Hatfield, E., Utne, M. K., \& Traupmann, J. (1979). Equity theory and intimate relationships. In R. L. Burgess \& T. L. Huston (Eds.), Social exchange in developing relationships (pp. 99-133). New York: Academic Press.

Hawkins, A. J., Roberts, T., Christiansen, S. L., \& Marshall, C. M. (1994). An evaluation of a program to help dual-earner couples share a second shift. Family Relations, 43, 213-220.

Hendrick, S. S. (1988). A generic measure of relationship satisfaction. Journal of Marriage and the Family, 50, 93-98.

Hendrick, S. S., Dicke, A., \& Hendrick, C. (1998). The relationship assessment scale. Journal of Social and Personal Relationships, 15, 137-142.

Hewlett, S. A. (2007). Off-ramps and on-ramps: Keeping talented women on the road to success. Boston, MA: Harvard Business School Press.

Hewlett, S. A., \& Luce, C. B. (2005, March). Off-ramps and on-ramps: Keeping talented women on the road to success. Harvard Business Review, 83, 4354.

Hicks, T. \& Heastie, S. (2008). High school to college transition: A profile of the stressors, physical and psychological health issues that affect the first-year on-campus college student. Journal of Culture and Diversity, 15, 143-147.

Hochschild, A.R. (1989). The second shift: Working parents and the revolution. New York: Penguin Group.

Hochschild, A.R. (1997). The time bind: When work becomes home and home becomes work. New York: Henry Holt \& Company.

Hrdy, S. B. (1999). Mother nature: Maternal instincts and how they shape the human species. New York: Ballantine Books.

Ingalls, Z. (2000). The art, science, and guesswork of pairing roommates. Chronicle of Higher Education, 46, 41-43.

Kiecolt-Glaser, J. K., Glaser, R., Cacioppo, J. T., \& Malarkey, W. B. (1998). Marital stress: Immunologic, neuroendocrine, and autonomic correlates. Anals of the New York Academy of Sciences, 840, 656-663.

Kirby, E. L., \& Krone, K. J. (2002). "The policy exists but you can't really use it": Communication and the structuration of work-family policies. Journal of Applied Communication Research, 30, 50-77.

Lenney, E. (1991). Sex roles: The measurement of masculinity, femininity, and androgyny. In J. P. Robinson, P. R. Shaver, \& L. S. Wrightsman (Eds.), Measures of personality and social psychological attitudes (pp. 573-649). San Diego, CA: Academic Press, Inc.

Lepore, S. J. (1992). Social conflict, social support, and psychological distress: Evidence of cross-domain buffering effects. Journal of Personality and Social Psychology, 63, 857-867.

Maccoby, E. E. (1990). Gender and relationships: A developmental account. American Psychologist, 45, 513-520.

McEwan, P., \& Soderberg, K. (2006). Roommate effects on grades: Evidence from first year housing assignments. Research in Higher Education, 47, 347-370.

Mederer, H. J. (1993). Division of labor in two-earner homes: Task accomplishment versus household management as critical variables in perceptions about family work. Journal of Marriage and the Family, 55, 133-145.

Mikula, G., Freudenthaler, H. H., Brennacher-Kroll, S., \& Brunschko, G. (1997). Division of labor in student households: Gender inequality, perceived justice and satisfaction. Basic and Applied Psychology, 19, 275-289.

Motimer, J. T., Dennehy, K., Lee, C. \& Finch, M. D. (1994). Economic socialization in the American family: The prevalence, distribution, and consequences of allowance arrangements. Family Relations, 43, 23-29.

Natalier, K. (2003). 'I'm not his wife': Doing gender and doing housework in the absence of women. Journal of Sociology, 39, 253-269.

National Center on Educational Statistics (2009). Retrieved, December 4, 2009, from http://nces.ed.gov/fastFacts/display.asp?id=98

O'Colmain, S. J. (2008). The chore war: Roommates and conflict over the division of household labor. Unpublished master's thesis, Arizona State University, Tempe.

Ogletree, S. M., Turner, G. M., Desai, R., Hernandez, R. \& Stafford, T. (2003, Fall). Attitudes towards housecleaning: Gender-related differences. American Association of Behavioral and Social Sciences Journal, 82-88.

Ogletree, S. M., Turner, G. M., Vieira, A, \& Brunotte, J. (2005). College living: Issues related to housecleaning attitudes. College Student Journal, 39, 729-733.

Ogletree, S. M. \& Worthen, J. B. (2008). Housecleaning attitudes and intimate relationships. Journal of Couple and Relationship Therapy, 7, 136-149.

Ogletree, S. M., Worthen, J. B., Turner, G. M., \& Vickers, V. (2006). Developing an attitude towards housecleaning scale: Gender comparisons and
counseling applications. The Family Journal: Counseling and Therapy for Couples and Families, 14, 400-407.

Rampell, C. (2009, February 6). As layoffs surge, women may pass men in the job force. The New York Times, p. A1(L).

Riforgiate, S. E. (2007). Division of domestic labor between same sex roommates. Unpublished masters thesis, Arizona State University, Tempe.

Sacher, J. A. \& Fine, M. A. (1996). Predicting relationship status and satisfaction after six months among dating couples. Journal of Marriage and the Family, 58, 21-32.

Sanchez, L., \& Thomson, L. (1997). Becoming mothers and fathers: Parenthood, gender, and the division of labor. Gender and Society, 11, 747-772.

Sax, L. (2005). Why Gender Matters: What parents and teachers need to know about the emerging science of sex differences. New York: Doubleday.

Scott, K. (1998). Roommate roulette. Career World, 26, 13-15.
Shook, N. J. (2008). Roommate relationships: A comparison of interracial and same-race living situations. Group Process \& Intergroup Relations, 11, 425-437.

Sprecher, S. (2001). A comparison of emotional consequences of and changes in equity over time using global and domain-specific measures of equity. Journal of Social and Personal Relationships, 18, 477-501.

Stafford, L. \& Canary, D. J. (2006). Equity and interdependence as predictors of relational maintenance strategies. The Journal of Family Communication, 6, 227-254.

Stern, L., Powers, J., Dhaene, K., Dix, A., \& Shegog, S. (2007). Liking, cooperation, and satisfaction between roommates. Journal of College and University Student Housing, 34, 53-60.

Stone, P. (2008). Opting out? Why women really quit careers and head home. Berkeley, CA: University of California Press.

Sullivan, O. (2000). The division of domestic labor: Twenty years of change? Sociology, 34, 437-456.

Trost, M. R., \& Alberts, J. K. (2006). How men and women communicate attraction: An evolutionary view. In K. Dindia \& D. J. Canary (Eds.), Sex
differences and similarities in communication (pp. 317-336). Mahwah, NJ: Lawrence Erlbaum Associates.

Valian, V. (1999). Why So Slow?: The Advancement of women. MA: Massachusetts Institute of Technology Press.

VanYperen, N. W. \& Buunk, B. P. (1990). A longitudinal study of equity and satisfaction in intimate relationships. European Journal of Social Psychology, 20, 287-309.

Vaughn, M. J. \& Matyastik-Baier, M. E. (1999). Reliability and validity of the relationship assessment scale. The American Journal of Family Therapy, 27, 137-147.

West, C. \& Zimmerman, D. H. (1987). Doing gender. Gender and Society, l, 125-151.

Wood, W., \& Eagly, A. H. (2002). A cross-cultural analysis of the behavior of women and men: Implications for the origins of sex differences. Psychological Bulletin, 128, 699-727.

Zacchilli, T. L., Hendrick, C., \& Hendrick, S. S. (2009). The romantic partner conflict scale: A new scale to measure relationship conflict. Journal of Social and Personal Relationships, 26, 1073-1096.

## APPENDIX A

MESS THRESHOLD LEVEL (MTL) AND THRESHOLD COMPARISON MEASURE (TCM) FACTOR LOADINGS

Factor Loadings

|  | Factors |  |
| :--- | :---: | :--- |
| Variable Label | II |  |
| TCM - Global Measure | $\mathbf{. 8 8}$ | .17 |
| TCM - Picking up clutter | $\mathbf{. 8 7}$ | .12 |
| TCM - Taking out the garbage | $\mathbf{. 8 5}$ | .14 |
| TCM - Doing dishes | $\mathbf{. 8 5}$ | .12 |
| TCM - Vacuuming | $\mathbf{. 8 4}$ | .20 |
| TCM - Cleaning the bathroom | $\mathbf{. 8 2}$ | .08 |
| TCM - Dusting | $\mathbf{. 8 0}$ | .09 |
| MTL - Picking up clutter * | .15 | $\mathbf{. 8 3}$ |
| MTL - Taking out the garbage * | .04 | $\mathbf{. 8 2}$ |
| MTL - Global Measure * | .21 | $\mathbf{. 8 1}$ |
| MTL - Doing dishes * | .13 | $\mathbf{. 8 1}$ |
| MTL - Vacuuming * | .12 | $\mathbf{. 8 0}$ |
| MTL - Cleaning the bathroom * | .13 | $\mathbf{. 8 0}$ |
| MTL - Dusting * | .04 |  |

[^0]
## APPENDIX B

MESS THRESHOLD LEVEL (MTL)

Please read the following list of household tasks and indicate on the scale provided the extent to which it would bother you if that task were left undone.

|  | Not <br> bothered <br> at all |  |  | Moderately <br> bothered | Extremely <br> bothered |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cleaning the bathroom * | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Dusting * | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Doing dishes * | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Picking up clutter * | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Taking out the garbage * | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Vacuuming * |  |  |  |  |  |  |  |
| In general, how would <br> you rate the degree to <br> which undone household <br> tasks bother you? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

[^1]
## APPENDIX C

THRESHOLD COMPARISON MEASURE (TCM)

Please read the following list of household tasks and indicate on the scale the extent to which you or your roommate would be bothered if a task were to be left undone.

| I'm more | We are | My roommate |
| :---: | :---: | :---: |
| bothered than | equally bothered | is more |
| my roommate | or not bothered | bothered than |
|  |  | I am |


| Cleaning the bathroom | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Dusting | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Doing dishes | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Picking up clutter | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Taking out the garbage | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Vacuuming | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Undone household tasks <br> in general | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## APPENDIX D

RELATIONSHIP ASSESSMENT SCALE (RAS)

How well does your roommate meet your needs?

| Poorly | Average |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :--- | :--- | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

In general, how satisfied are you with your roommate relationship?

| Unsatisfied | Average |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :--- | :--- | :--- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

How good is your roommate relationship compared to most?

| Poor | Average |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

How often do you wish you hadn't gotten into this roommate relationship? (Reverse Code)

| Never | Average |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

To what extent has your roommate relationship met your original expectations?

| Hardly at all | Average |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

How much do you like your roommate?

| Not much | Average |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :--- | :--- | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

How many problems are there in your roommate relationship? (Reverse Code)

Very Few 12

Average
4

5
Very Many 7

## APPENDIX E

EQUITY MEASURES

## Hatfield Global Measure of Equity

Considering what you put into your roommate relationship to what you get out of it, and what your roommate puts in compared to what $\mathrm{s} /$ he gets out of it, how does your roommate relationship "stack up"? Please select the response that best represents your feelings.
$\qquad$ I am getting a much better deal than my roommate.
$\qquad$ I am getting a somewhat better deal.
$\qquad$ I am getting a slightly better deal.
$\qquad$ We are both getting an equally good...or bad...deal.
___ My roommate is getting a slightly better deal.
$\qquad$ My roommate is getting a somewhat better deal.
$\qquad$ My roommate is getting a much better deal.

## Sprecher Global Measure of Equity

Sometimes things get out of balance in a relationship and one roommate contributes more to the relationship than the other. Please indicate if you or your roommate is more likely to contribute more in such cases.
$\qquad$ My roommate is much more likely to be the one to contribute more.
___ My roommate is somewhat more likely to be the one to contribute more. My roommate is slightly more likely to be the one to contribute more.
$\qquad$ We are equally likely to be the one to contribute more.
___ I am slightly more likely to be the one to contribute more.
___ I am somewhat more likely to be the one to contribute more.
$\qquad$ I am much more likely to be the one to contribute more.

## Global Measure of Fairness

When you think about everything that you and your roommate exchange in the relationship, how "fair" would you say your relationship is? (Reverse Code)

Very unfair,
I am getting the worse deal.

Fair, we
are getting an equally fair deal.
3

Very unfair, I am getting the better deal. 7

## APPENDIX F

## CONFLICT FREQUENCY

How often do you and your roommate have conflict about household tasks during a typical month?

| Never | Sometimes |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

How frequently do you and your roommate argue with each other about household tasks during a typical month?

| Never | Sometimes |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

How often do you and your roommate disagree about the way household tasks are being done?

| Never | Sometimes |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## APPENDIX G

BEM SEX ROLE INVENTORY SHORT-FORM (BSRI)

We would like you to use these personality characteristics to describe yourself, that is, select how true or untrue each of the characteristics is. Please do not leave any characteristics unmarked.

|  | *Never or almost never true | Occasionally True |  |  | Always or almost always true |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Defend my own beliefs (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Affectionate (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Conscientious (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Independent (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Sympathetic (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Moody (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Assertive (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Sensitive to the needs of others (Feminine) | e) 12 | 3 | 4 | 5 | 6 | 7 |
| Reliable (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Strong personality (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Understanding (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Jealous (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Forceful (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Compassionate (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Truthful (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Have leadership abilities (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Eager to sooth hurt feelings (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Secretive (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Willing to take risks (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Warm (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Adaptable (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Dominant (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Tender (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Conceited (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Willing to take a stand (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Love children (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Tactful (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |
| Aggressive (Masculine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Gentle (Feminine) | 2 | 3 | 4 | 5 | 6 | 7 |
| Conventional (Neutral) | 2 | 3 | 4 | 5 | 6 | 7 |

* All seven anchors are as follows: Never or almost never true, usually not true, sometimes but infrequently true, occasionally true, often true, usually true, always or almost always true


## APPENDIX H

TIME SPENT ON HOUSEHOLD TASKS

Now we would like to ask you about the household tasks that you complete. As you consider these items, we would like for you to think back to the PAST WEEK (SEVEN DAYS) and report on the tasks completed during that entire time period. There are no right or wrong answers. Please answer each item as carefully and accurately as you can.

For example, if you spend no time on the task, enter 0 . If you spend one hour on the task, enter 60. If you spend one hour and twenty minutes on the task, enter 80.

In the past SEVEN DAYS, how many MINUTES did you spend cleaning the bathroom?
In the past SEVEN DAYS, how many MINUTES did you spend doing dishes?

In the past SEVEN DAYS, how many MINUTES did you spend picking up clutter?

In the past SEVEN DAYS, how many MINUTES did you spend taking out the garbage?

In the past SEVEN DAYS, how many MINUTES did you spend vacuuming?


[^0]:    * Mess Threshold Level were items reverse coded so that the lower number indicates lower threshold levels

[^1]:    * Mess Threshold Level were items reverse coded so that the lower number indicates lower threshold levels

