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## Messy Versus Clean Primary Environments: Personality Judgments of Dorm Room Residents

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**Abstract.** Living in a dorm room and sharing a living space with another person is a new experience for most college students. Some may find it difficult to live with a person whose cleaning habits differ from their own, and it may affect how others view them. The purpose of this study was to examine how outside observers rate an occupant of a dorm room on the Big Five personality traits based on how clean their dorm room is and to see if the Halo Effect played a role in social perceptions of cleanliness and other aspects of personality. Participants ( $n=40$ ) were randomly assigned to one of two conditions in which they viewed two images. One group viewed the images of a clean, single occupant dorm room and a clean, shared (by the occupant and a roommate) dorm room. The other group viewed images of a messy, single occupant dorm room and a shared, messy dorm room. After viewing each room, participants were asked to rate the occupant on a personality scale. Based on previous research, I predicted that participants would rate the occupant of the messy, single dorm room to be more extroverted, less conscientious, and more open than the occupant of the clean, single dorm room. Also, due to the Halo effect, participants would rate the occupant with the messy roommate more negatively than the occupant with the clean roommate. The present study showed that participants rated the occupant in the shared dorm room more positively than the occupant in the single dorm room. Also, occupants in the single, clean condition were rated higher in conscientiousness and lower in both extraversion and openness than the occupant in the single, messy condition.

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College is a time of integration for many different types of people. In October 2014, 68.4 percent of high school graduates were enrolled in colleges or universities (Bureau of Labor Statistics, 2014). With college comes college roommates and, for some, the challenge of sharing a room with someone for the first time. Cleanliness preferences may be related to the compatibility of college roommates and relevant to students' satisfaction with and desire to continue at a particular college or university (Ogletree, Turner, Vieira, & Brunotte, 2005).

College is also a time of self-expression and independence. Many theorists

(Buss, 1987; Snyder & Ickes, 1985; Swann, 1987) note that individuals create their social environments to match and reinforce their dispositions, preferences, attitudes, and self-views. Gosling, Ko, Mannarelli, and Morris (2002) found that individuals do the same with their physical environments. Primary spaces such as bedrooms, give people a chance to make decisions about an individual before even meeting them.

Brunswick's (1956) Lens Theory Model states that stimuli in our environments can serve as a sort of lens in which individuals subconsciously perceive underlying information about a person or the event. This model helps to show what people actually do





in their primary environments (Karelania & Hogarth, 2008). So, if an individual has a clean, organized environment, observers may use this information to make a judgement of high conscientiousness regarding the individual. People make personality judgments based on these primary environments, assuming the orderliness of one's personal space suggest a lot about that person's nature. Researchers Gosling, Ko, Mannarelli, and Morris (2002) created a model of interpersonal perception that provides a useful framework for research. Their model was made up of two broad mechanisms from which personality is shown in physical environments: Identity claims and behavioral residue.

Behavioral residue can reflect behaviors performed inside the environment (eg. heavy importance on cleaning their primary living space). Thus, behavioral residue, such as the organization of a CD collection, can reflect a person's conscientiousness. Identity claims are ways that individuals make their living space their own. They may put up posters of political figures to reinforce their own political views or a widely understood cultural symbol, such as a diploma from their university (Gosling et al., 2002). These judgments are then used as data about the personality attributes of the person they describe (Vazire & Gosling, 2004). The quality of these data and the validity of the conclusions drawn from them depend critically on the accuracy of the judgments (Funder, 1995).

According to Funder (1995) the accuracy of personality judgment is an extremely complex matter; it goes beyond relatively convenient operational definitions and into complex issues concerning the construct validity of personality traits. Previous research has found that there were significant self-peer agreement correlations for the personality traits extraversion and conscientiousness. Furthermore, there were significant validity correlations—instances

when self-report was closely correlated to peer reports—of agreeableness as the number of peer ratings increased (Watson, 1989). He also showed that observers have high accuracy when making judgments, even when they have no relationship with the individual that owns the space they are observing (Watson, 1989).

In one landmark study by Gosling, Ko, Mannarelli, and Morris (2002), personality judgements made by observers of work spaces and bedrooms were studied. The authors found that participants relied on cues in the rooms to help make their judgments and that their accuracy and consensus was strongest with openness, conscientiousness, and extraversion. To help rate extraversion, Gosling, et al. (2002) found that people looked at how cluttered the room was. How cluttered, or uncluttered the room was, in addition, used to help observers rate the level of conscientiousness. In a more recent study, Vazire and Gosling (2004) found that moving around things in the environment, such as moving a workplace award to a more noticeable section of the room, can increase a viewer's positive impressions. Gosling, et al. (2002) found that, overall, an observer who has briefly examined an individual's living or working environment will form impressions that are remarkably consistent with other observers' impressions of that same environment.

The physical environment is not the only thing that can influence a persons' judgement of a person. The Halo Effect (formed and named by Edward Thorndike) is the cognitively based theory that an observer's overall judgement of a person, group, brand, or product influences the observer's thoughts about that particular entity's' character or properties. In their study, Nisbett and Wilson (1977) found that when students viewed a tape of a "cold" teacher, they rated him as less physically attractive, found his mannerisms more irritating, and found his accent to also be irritating. The students who viewed the tape of the "warm" professor found his mannerisms



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and accent more appealing, and found him more physically attractive. This helps to show how people can take one aspect of a person and generalize it to them as a whole person.

The Halo Effect can have both a positive and a negative impact on certain situations or people. If a person had a poor reputation, the influence of the Halo Effect could lead individuals to rate that person even more negatively in light of a responsibility crisis. Also, the effect offer a beneficence to someone of good reputation. Coombs and Holladay (2006) found that when a human error occurred in a work place by someone of high reputation, the effect of crisis responsibility was blunted by the favorable prior reputation. If a person had a poor reputation, the influence of the Halo Effect could lead individuals to rate that person even more negatively in light of a responsibility crisis.

Upon further analysis, several flaws exist within the discussed research. In two independent studies (i.e., Gosling, et al., 2002; Vazire and Gosling, 2007) researchers found that people do use cues in the environment. The researchers did, however, run into problems involving the controlled environment owners; the owners arranged their spaces in an orderly, uncharacteristic manner beforehand to enhance their image. Another problem faced was that there was no consistency in whether or not the primary environment was inhabited by others or was only used by the individual (Gosling, et al., 2002).

This study was guided mostly by the work done by Gosling, Ko, Mannarelli, and Morris (2002), but no changes to the primary environment were permitted before participant observation. The environments were kept consistent as being labeled by the experimenter as either messy or clean. The experimenter also controlled whether these

environments were inhabited by an individual or shared by a pair.

The purpose of this study was to see whether observers take into consideration the individual sharing the messy or clean room with another person and to rate the individual's personality traits independent of their roommate's personality traits. The individual has little control over how messy or clean their roommate is.

Based on the findings of Coombs and Holladay (2006) and the idea that the Halo Effect offers a sort of protection against negative impressions, I predicted that participants would rate the occupant with the messy roommate more negatively than the occupant with the clean roommate. Secondly, based on Gosling's study (2002), I predicted that participants would rate the occupant of the messy, single dorm room to be more extroverted, less conscientious, and more open than the occupant of the clean, single dorm room.

## Method


### Participants

For this experiment, 41 undergraduate students at Minnesota State University Moorhead (MSUM) were used as participants. One participant's data was thrown out due to incompleteness of personality questionnaires. A majority of the participants were from lower level psychology courses at MSUM. Extra credit was given for participation in this study. Participants completed this study individually and were not separated by any demographic features. All participants were treated according to the American Psychological Association (2002) ethical guidelines.

### Materials

Materials for this study included: four pictures of a dorm room shown on an iPad mini, items that came from the International Personality Item Pool (IPIP) (Goldberg et al., 2006) compiled into a questionnaire to





measure personality dimensions, and a description of the occupant who lives in the dorm room. Each picture was presented by the experimenter to the participant for a length of 30 seconds each.

**Dorm room.** There were four pictures total: A clean, single dorm room; a clean, shared dorm room; a messy, single dorm room; and a messy, shared dorm room. (See Appendix A). The dorm room used for both messy and clean single rooms was held constant, and the room used for both messy and clean shared rooms was held constant. The pictures were taken standing at the door looking in.

**Personality Assessment.** The participants filled out two of the exact same questionnaires. There was a list of questions to assess the Big-factor Five Markers selected from the 50 item sample questionnaire on the International Personality Item Pool website (See Appendix B). It contained 10 questions from each of the five Big Five personality traits, for a total of 50 questions. The questions were modified slightly from using first person to third person (they). Some questions were worded positively (e.g., This person frequently starts conversations: 1-*very inaccurate*; 5- *very accurate*). Other questions were worded negatively (e.g., This person often forgets to put things back in its place: 1-*very inaccurate*; 5-*very accurate*). The questions that were worded negatively were reverse scored. This questionnaire was presented to the participant in pencil-paper format after they viewed each of the two dorm room pictures.

**Person Scenario.** A control description of the dorm room occupant was read by the participant before they viewed the image of the dorm room (See Appendix C). This description was typed and presented on a half sheet of standard white printer paper. The description did not have a specific gender mentioned, and it did include details of major (business), GPA (3.0), which type of

university they attended (State University), and where the occupant was from (Midwest).

### **Design**

This study used a 2 (clean vs. messy) x2 (single vs. shared) mixed factorial design with the independent repeated measure of single versus shared. Participants were randomly assigned to one of two conditions, by means of an online randomizer, in which we examined the participants overall rating of the occupant and how participants' judgements of personality changed depending on if the occupant lived alone or with one other roommate as one dependent variable. Next, we examined how the participants rated the dorm room occupant on the Big Five personality traits (conscientiousness, extraversion, openness, agreeableness, emotional stability) as a second, third, fourth, fifth, and sixth dependent variables. Accuracy and consensus was strongest with openness, conscientiousness, and extraversion when reported in Gosling's study (2002), so though we gathered data for all five personality traits, only three were reported.

### **Procedure**

Participants completed the study individually. Once the informed consent was signed, the participant read the description of the dorm room resident. Once read, the experimenter presented the images that the participant were randomly selected to view on the iPad mini. They viewed each image for 30 seconds and then participants were given the personality questionnaire. When the first questionnaire was complete, the participants viewed the second dorm room for 30 seconds and then completed the second personality questionnaire. For the shared-room personality questionnaire, it was stressed that the participants were to rate the occupant that they first rated in the single dorm, not the roommate. Upon completion of the study, the participants were compensated for their time. The total length of the experiment was approximately 30 minutes.



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## Results

The experimenter calculated the overall totals for each personality questionnaire and the individual ratings for each of the Big Five personality factors measured by the questionnaire. As expected, participants rated the occupant of the clean, shared dorm room ( $M= 170.70, SD= 18.32$ ) more positively than the occupant of the clean, single dorm room ( $M= 167.65, SD= 13.44$ ). Unexpectedly, participants also rated the occupant of the messy, shared dorm room ( $M= 164.55, SD= 18.28$ ) more positively than the occupant of the messy, single dorm room ( $M= 150.05, SD= 10.29$ ). Table 1 displays the means and standard deviations for the clean (single versus shared) and messy (single versus shared) conditions.

A 2x2 factorial ANOVA was conducted to see if there was a significant difference in participant ratings between room conditions (clean versus messy) within occupancy (single versus shared) as well if there was an interaction between room style and occupancy. There were significant results between the room style ( $F(1, 38) = 8.488, p=.006, r^2 = .183$ ), between occupancy ( $F(1, 38) = 10.56, p=.002, r^2 = .217$ ), and an interaction ( $F(1, 38) = 4.496, p=.041, r^2 = .106$ ). See Figure 1.

A follow-up pairwise t-test analysis was conducted on all significant results for the dependent variable of overall occupant rating by the participants. The follow-up analysis showed no significant results for single versus shared in the clean condition ( $t(19) = -1.05, p=.307$ ), but it did show overall occupant rating in the shared, messy condition to be significantly higher than significant results of overall occupant rating for the single, messy condition ( $t(19) = -3.185, p=.005$ ).

A series of independent sample t-tests was conducted to determine whether there was a statistical significance between ratings of


extraversion, conscientiousness, and openness between the single, clean, and messy conditions. Also, a Dunnett correction was applied to each t-test to account for type one error. The new corrected alpha level required for significance was .017. As expected, participants rated occupants in the single, clean condition as significantly more conscientious than those in the single, messy condition,  $t(38) = 13.3, p < .001$ . Though participants did rate the occupant in the single, messy condition as more extraverted ( $t(38) = -2.42, p=.02$ ) and more open ( $t(38) = 2.37, p=.023$ ) than the occupant in the single, clean condition, there was no significance found. Refer to Figure 2 for comparison of means for the three Big Five personality factors that were examined.

## Discussion

The first hypothesis aimed to determine if participants would rate the occupant of the messy, single dorm room to be more extroverted, less conscientious, and more open than the occupant of the clean, single dorm room. These three specific factors were selected, because they were given the most empirical support for accuracy ratings by participants (Gosling, Ko, Mannarelli, & Morris, 2002). The comparison of means showed that participants did rate the occupants of the messy dorm room, on average, to be more extroverted and open than the occupants of the clean dorm room. Comparison of means also showed that, as anticipated, participants rated the occupant of the clean dorm room to be more conscientious than the occupant of the messy dorm room.

The second hypothesis stated hoped to find that participants would rate the occupant who lived in a clean shared dorm room more positively than the occupant who lived in the clean, single dorm room. Also, it aimed to determine whether the occupant who lived in





the messy shared dorm room would be rated more negatively than the occupant who lived in the messy single dorm room. Though participants did rate the shared, messy room occupant and the clean, single room occupant more positively than in the clean single dorm room, they also rated the occupant who lived in the messy shared room more positively than the messy single dorm room. The Halo Effect (Coombs and Holladay, 2006) can help to explain why this may have happened; high ratings of the occupant in the single dorm room condition could have provided a type of protection in the messy, shared dorm room condition and an enhancement factor in the clean, shared condition.

A limitation for the current study includes the wording or phrasing of the questions on the Personality questionnaire. Some of the words may have been unfamiliar to the participants, or the phrasing of the question could have caused some confusion and, therefore, a participant to make a random guess. Another limitation could have been exhaustion from answering the total of 100 questions.

Future research can attempt to examine how people define clean and messy, what factors are the strongest influences on rating an environment as clean or messy, and what type of room college students would prefer to live in. Those who define “clean” as being free from stains and dirt may rate the occupant(s) in the messy room overall as more positive than those who define “clean” as being free from filth, organized, and free from old food or personal items lying about. The participants that prefer to live with others may be inclined to rate those that live alone more negatively and vice versa. If this study were to be replicated, I would gather more background on the participants to find other relations that may relate to more positive or negative ratings of overall and individual personality traits.



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Table 1

*Average Scores of Messy versus. Clean Primary Environment*

	Single	Shared
Clean	$M= 167.65$ $SD= 13.44$	$M= 170.70$ $SD= 18.32$
Messy	$M= 150.05$ $SD= 10.29$	$M= 164.55$ $SD= 18.28$



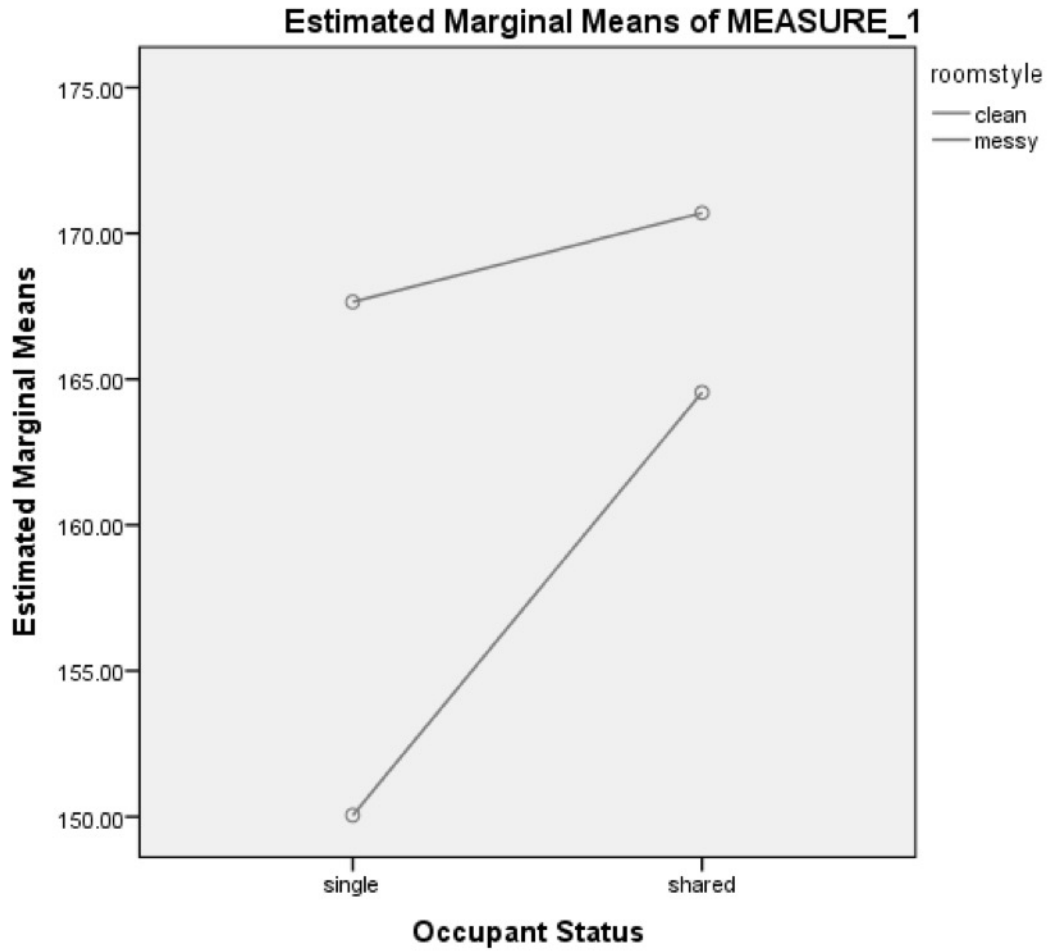
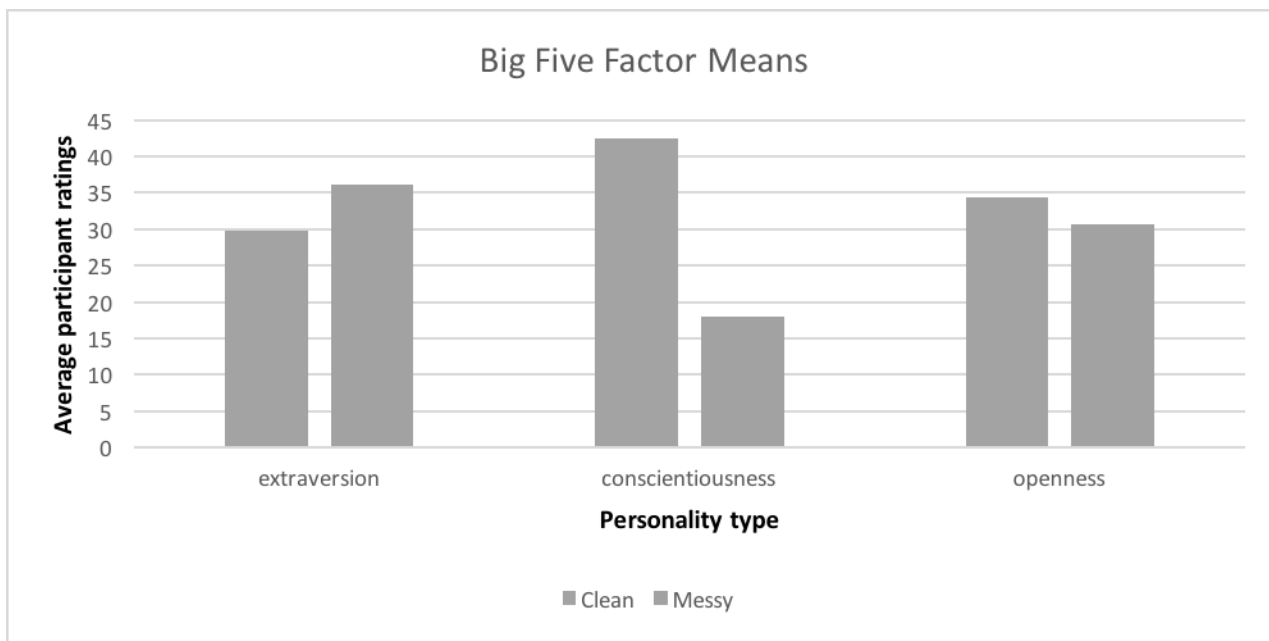


Figure 1. The graph above shows the interaction between Clean (single, shared) and Messy (single, shared) and the overall participant ratings of the occupant in each condition.





*Figure 2.* The table above displays the means for extraversion, conscientiousness, and openness for the single occupant condition at both the clean and messy level.