



Developing and Assessing Respect for Human Dignity in College Students

ABSTRACT

Academic institutions are now expected to engage in developing and assessing learning outcomes; however, responsibility outcomes, such as respect for human dignity (RFHD), can be particularly challenging. As part of our Biopsychology course and Sensation and Perception course over the past decade, we applied the scientist-educator model of learning and drew from the literature on prejudice reduction to develop our RFHD interventions, which involved face-to-face interactions with others who had sensory deficits or brain/spinal cord injuries. We iteratively created two pre-post measures to assess development of different aspects of RFHD: a Behavioral Tendencies Questionnaire and a 4-Factor RFHD Model Questionnaire. Recently, we modified the intervention and the assessments for adoption in our Class, Race, and Ethnicity in Society course. This paper reports findings from these three courses and a control course in engineering ($n = 153$). Findings support our two sets of hypotheses, regarding 1) the efficacy of the assessments to capture different likelihoods for interacting with others targeted by the interventions and changes over time in these factors, and 2) positive effects of the face-to-face intervention activities. This study demonstrates RFHD can be developed and assessed in a college course and provides new assessments for RFHD that are easily modified for a variety of types of others (e.g., individuals who are homeless versus blind or of a particular race).

KEYWORDS

scientist-educator model, respect for human dignity, assessment, learning outcomes

INTRODUCTION

What is the purpose of higher education? Many would advocate that two of its responsibilities should be to develop good citizens and good human beings. However, in contrast to knowledge and skills outcomes, responsibility-based outcomes (e.g., citizenship, character) can be especially difficult to teach and quantify (Pusateri et al. 2009). Our efforts to develop and assess the responsibility-based outcome of respect for human dignity (RFHD) involved iterative application of the scientist-educator model (SEM; Bernstein et al. 2010; Butler Samuels and Scharff 2021). The SEM entails six steps: 1) conceptualize the learning process and set goals, 2) learn about teaching, 3) design measures to assess learning, 4) design learning activities, 5) deliver the course, measure outcomes, and make decisions, and 6) reflect publicly and disseminate.

We engaged in this SEM process for several years (see Butler Samuels and Scharff 2021), focusing our efforts in two courses: Sensation and Perception (S&P) and Biopsychology. Although race is the most commonly studied characteristic of interactions between different groups of people, individuals are prone to noticing any others who are different from them in some way. In our case, the

observable characteristics leading to differences were sensory deficits and brain/spinal cord damage. Individuals with these characteristics often report acts of exclusion and discrimination, so it is important to include them in RFHD efforts. This paper reports our most recent empirical results, which replicate our earlier findings in our courses, and it extends our work to a new course called Class, Race, and Ethnicity in Society (class/race). These new results suggest that our interventions and means of assessment are reliable and easily adaptable to a variety of courses and situations. We hope that this dissemination (example of SEM step 6) inspires others to use our assessments, helps to build a larger pool of data with even more diverse populations, and grows our understanding of how to develop RFHD.

Getting started: Challenges in defining and assessing RFHD

Despite seemingly widespread agreement that it is important to develop RFHD, there is less agreement on how to define RFHD and little available research on how to develop and assess it, particularly within an academic setting. One definition that has gained some momentum in the past decade was proposed by Lalljee, Laham, and Tam (2007). Simply put, they define unconditional respect for persons as valuing the equal, intrinsic worth of all persons. They developed the Unconditional Respect for Persons Scale (RfP) to measure agreement with general beliefs and actions that are associated with respect. Several studies have shown that this scale predicts the withholding of negative sentiment (e.g. Lalljee et al. 2009) and belief in the fundamental equality of all humans (e.g., Lalljee, Laham, and Tam 2007).

However, as we began our own efforts to systematically develop and assess RFHD in our upper-level S&P and Biopsychology courses, we concluded that the RfP definition and scale had shortcomings that limited their use to develop and assess RFHD, especially in certain contexts. To start, drawing from the skill development literature, we know that constructs such as critical thinking, metacognition, and, we argue, RFHD, are not monolithic skills or ways of interacting. The more clearly we specify component aspects of skill development, the more successfully we are able to design activities to practice and assess them (e.g. Kaplan et al. 2013). As psychologists, we often think in terms of cognitive, affective, and behavioral components of constructs. The Lalljee, Laham, and Tam (2007) definition focuses on perceived value, which is heavily weighted toward the cognitive component; we wanted to also focus on affective and behavioral components. Further, our personal experiences suggested that RFHD could vary across different types of others and situations. In other words, an individual might respectfully interact with some types of others (especially others similar to them) but be less respectful of others different than them. In contrast, the Lalljee, Laham, and Tam definition refers to “all humans” and the RfP scale instructions and questions do not specify any particular situation or groups of others to keep in mind when answering the questions. While we believe that general attitudes are important and interactively influence behavior (Glasman and Albarracín 2006), we wanted an assessment that captured specific behavioral tendencies in everyday situations because behaviors are the ultimate way that respect is expressed and impacts other individuals. The RfP questions primarily address general beliefs and ways of thinking about others, (e.g., “Being considerate of other people’s wishes is a vital part of social relationships,” and “I look down upon the weaknesses and inadequacies of other people.”). Thus, they do not assess what people might actually do when interacting with specific others in everyday situations, which was a goal for our work.

Alternative angle: Reduction of prejudice

Given the absence of a widely agreed upon means by which to develop and assess RFHD to guide our efforts, we turned to the extensive research examining prejudice reduction (Butler Samuels and Scharff 2021). Prejudice has become recognized as a conceptual opposite of respect (e.g., Bennett 2001); thus, by reducing prejudice, we should be able to increase respect. This direction seemed promising, as a vast body of literature had established some effective means by which to reduce prejudice. The most effective strategy seemed to be intergroup contact (Allport 1954; Pettigrew and Tropp 2006), which was especially appealing as we had previously witnessed the powerful effects of service learning and field trip interactions in our students' reflections following the interactions, and intergroup activities were the key interventions of interest in our planned research.

In order to more effectively develop respect by reducing prejudice, we needed to understand the means by which intergroup contact exerts its effects. A meta-analysis by Pettigrew and Tropp (2008) suggested three key mechanisms: 1) enhancing knowledge of the out-group, 2) reducing negative affect (i.e., intergroup anxiety) about the intergroup contact, and 3) inducing positive affect (e.g., empathy and perspective-taking). Of the three, they concluded that knowledge of the outgroup was least influential. This latter conclusion was substantiated by Krahe and Altwasser (2006), who examined three interventions to reduce prejudice towards individuals with physical disabilities: a cognitive intervention, a cognitive-behavioral intervention that included interactions, or no intervention. Only the cognitive-behavioral intervention led to significant decreases in prejudicial attitudes compared to baseline.

The above prior research on prejudice reduction supported our intuitions that our course activities involving simulations and face-to-face interactions might indeed promote the development of RFHD. However, we still needed ways to measure the interventions' effects that captured changes specific to our contexts. We wanted to capture positive changes in knowledge about our targeted populations (those with sensory or brain/spinal cord damage), as well as changes in affective responses and behavioral tendencies with respect to interactions with these populations. While the prejudice reduction and intergroup contact research was helpful conceptually, their measures were focused more on the negative aspects of interaction than the positive and did not include measures of positive behavioral tendencies (Krahe and Altwasser 2006, Swart et al. 2011). For example, the measure used by Krahe and Altwasser (2006) was a questionnaire containing 38 negative statements about persons with physical disabilities. Swart et al. (2011) measured prejudice reduction by counting the number of out-group friendships, and by measuring intergroup anxiety, affective empathy, and negative action tendencies (fighting, arguing with, and standing up to out-group members).

Developing our assessments

Anecdotal observations from semesters prior to starting our research (e.g., student comments in reflection papers, in-class discussions, and in-course feedback) indicated that our learning experiences positively changed how students conceptualized individuals with sensory deficits or brain/spinal cord damage. We wanted to assess the positive impact of these interventions more systematically and empirically and to do so in a way that would help us better design future courses and activities (the scientist-educator process). In order to capture cognitive, affective, and behavioral impact, we created and revised multiple assessments through several years of pilot research.

Initially, our measures included open-ended responses on pre-post guided reflection papers and closed-ended responses on what we called a Behavioral Tendencies Questionnaire. Over time,

qualitative analysis of the reflection responses indicated some consistent dimensions of change, which we then incorporated into the second questionnaire we developed, the 4-Factor RFHD Model Questionnaire. These two questionnaires are described in more detail below, and full versions are accessible on our [project website](#). While we continued to incorporate the reflection papers as part of our approach to support student development of RFHD, we stopped using them as measures of the impact of our intervention.

Key to the development of our assessment was the intention that the instruments could easily be modified to assess understanding of and reactions to different types of others beyond those we focused on in our two courses (sensory deficits and brain/spinal cord injury). Additional types of others could be based on demographic differences such as race, gender, religion, sexual orientation, or based on different life experiences such as homelessness, incarceration, and trauma. Ultimately, we believe that a useful assessment should have specificity for certain types of others rather than including only generic “human-level” types of questions such as those found on the RfP.

The Behavioral Tendencies Questionnaire (BTQ)

Our goal when creating this questionnaire was to capture likelihoods to engage in a range of behaviors that might occur in common situations where a variety of others would naturally present themselves. We wanted common situations so that it would be easy for respondents to imagine themselves in such interactions. The initial version of BTQ included three brief scenarios: passing someone in a grocery store aisle (behavior was to nod/say hello; the type of other was manipulated), choosing a site at which to volunteer (behavior was to choose to volunteer; location/type of organization was manipulated), and interacting with others at a social gathering (type of other was manipulated). For the social gathering scenario, a range of social behaviors was included (nod/say hello, initiate a conversation, introduce friends, make plans to see again) so that we could assess “boundaries of comfort” for a variety of types of others. Responses to these scenario questions showed consistent patterns across courses and semesters. Students consistently reported higher likelihoods of interacting with similar others than those with disabilities, and they were less likely to engage in behaviors that pushed their boundaries of comfort with different others (e.g., introducing a friend vs. simply saying hello). These patterns suggested that we had reliable measures and that students would not simply succumb to demand characteristics and report high levels of likely behaviors regardless of the type of other. In the 2015 fall semester, after several semesters of collecting data, the grocery store and volunteer questions were dropped from the BTQ because the results gave no additional information beyond what we got from the social gathering question.

The 4-Factor RFHD Model Questionnaire (4RFHD)

As mentioned above, our qualitative analyses over several semesters consistently suggested four dimensions of responses that could be independently affected, depending upon the types of intervention activities in the course (e.g., discussion of content material, simulations of disabilities, different types of interactions during the field trips). These dimensions were 1) cognitive knowledge (low to high), 2) empathy (sense of foreignness to sense of connection), 3) hopefulness (sense of sadness or sympathy to optimism about future events), and 4) comfort (awkwardness or fear of offending to comfort and desire to approach). The following exemplify post-field-trip comments for each of the four dimensions:

- *Hopefulness*: “I never fathomed the degree to which some of the people I met succeeded beyond the minimal expectations I originally had.” “I was not giving them a chance and embracing them for how strong they are.”
- *Empathy*: “I didn’t know that even mild deficits make simple things so challenging.” “. . . [shared] a video he saw of a four or five year old visually impaired child. The child stepped down from a curb and was completely ecstatic. . . . I never put myself in their shoes like that before.”
- *Knowledge*: “The living spaces really surprised me. There were so many cool ways integrated into their dorms through which they received information about their environment.” “. . . the lady mentioned that those who have these sensory deficiencies have a very hard time with employment after graduating school since employers’ and society’s perceptions shape their beliefs that can lead them on the path towards discrimination.”
- *Comfort*: “I can’t wait for the group to come out and visit our campus.” “I honestly wanted to stay longer.” “It did not feel like a hospital; it seemed like a very friendly and pleasant place to be.”

Three of these four dimensions (empathy, knowledge, and anxiety/fear of offending) had been focused on during the prior research regarding prejudice reduction (e.g., Krahe and Altwasser 2006; Pettigrew and Tropp 2008; Swart et al. 2011), which offers some validation. However, ours is the first systematic research effort we are aware of that has identified hopefulness as an aspect of respect.

We propose some independence in these dimensions because across our different semesters of implementation, we consistently found that different types of activities led to different amounts of self-reported change within the four dimensions. For example, lab simulations in S&P (e.g., performing tasks while wearing goggles that simulated different types of vision loss) led to increases in empathy, but not in hopefulness for those who have such visual disorders. In contrast, field trips where students heard personal stories from those affected by brain/spinal cord injury, but did not include any sort of “trying on” of the disability, led to increases in hopefulness but not empathy. In order to more systematically capture these different dimensions of impact, beginning in the spring semester of 2015 we added a series of questions where students indicated their placement on each of the four dimensions for different types of others (e.g., someone in a wheelchair, someone with a sensory deficit). We refer to this set of questions as the 4-Factor RFHD Model.

Our current study

Using the scientist-educator model, two long-term goals we had across the years were: 1) to develop ways to reliably assess RFHD and its development, and 2) to assess whether or not our intuitions about the positive impact of our course interventions on developing RFHD were supported by systematic data. As noted above, after many semesters of pilot implementation and revisions, we believed that we had identified an effective intervention (face-to-face interactions and activities on a field trip) and had developed reliable assessment tools to capture changes related to the cognitive, affective, and behavioral aspects of RFHD for others with disabilities (BTQ and 4RFHD). Thus, we added a third goal: to explore whether or not our intervention and assessments were easily modifiable and effective for different types of others.

The current study being reported includes new data from both courses that were used to develop the assessments (Biopsychology and S&P), as well as the new course (Class, Race, and Ethnicity in Society). Based on the courses where our efforts were developed, the types of others initially of interest were those with sensory deficits and brain/spinal cord damage. With the addition of the new course, this paper will also examine the generalization of the intervention and assessments to a focus on others who might differ in ways such as race, homelessness, and being released from prison. Control data from a prior semester (Fundamental Hydraulics Engineering) is also included for comparison. Our hypotheses below are derived from both the previous literature cited above and our prior findings in the two courses.

Our first set of hypotheses predict that our assessments will show efficacy with the new course and replicate patterns previously observed with the Biopsychology and S&P courses. More specifically, 1) the BTQ will capture different boundaries of comfort when imagining different ways of interacting (e.g. nod hello versus introducing friends) with targeted different types of others (e.g. deaf or blind individuals for the S&P students; homeless individuals for those in the Class, Race, and Ethnicity in Society course), 2) the 4-Factor RFHD Model will capture different levels of growth across the four dimensions for the different courses due to their having different intervention activities during the face-to-face experiences with their different groups of others, and 3) both questionnaires will be sensitive enough to capture pre-post changes across the semester.

Our second set of hypotheses predict that we will find a positive effect of the face-to-face intervention activities when compared to the control group. More specifically, although we expect significant main effects for time (pre-post) and group (overall average of the three intervention groups and control), we predict a significant interaction, such that there will be pre-post changes for the three intervention groups but no change for the control group.

METHOD

Participants

Undergraduate students ($n = 153$) at a four-year military university in the western US were invited to participate in a voluntary research study. Students were recruited from: (a) the spring 2018 S&P course ($n = 30$); (b) the fall 2017 Biopsychology course ($n = 38$); (c) the fall 2017 class/race course ($n = 40$), and (d), the fall 2015 Fundamental Hydraulics Engineering ($n = 45$). The majority of the participants were in their third and fourth year of study, although a small number were in their second year. Roughly 25% of the student body is female, and roughly 65% identifies as White; generally speaking, the demographics in our individual sections reflected those of the institution. We did not specifically collect these demographic data points for our participants because gender and race were not included in our hypotheses or analyses. Given the selection criteria for admittance to a military institution, none of the students were disabled in the ways targeted by the S&P or Biopsychology courses (deaf, blind, or brain/spinal cord injured), although a small number of the students might have had family members or friends who did have such disabilities. We did not collect data regarding their possible first-hand experiences with homelessness or others who had been incarcerated, although based on general information from the admissions office, we expect that number would be very low.

Materials (assessment of RFHD)

We used two pre-post measures to assess development of different aspects of respect for human dignity: the RFHD Behavioral Tendencies Questionnaire (BTQ), and the 4-Factor RFHD Model Questionnaire (4RFHD). Both questionnaires used a 10-point response scale. Brief descriptions are given here; see our [project website](#) for full versions.

The BTQ includes a short scenario to explore self-reported behavioral likelihoods at a social gathering. This scenario examines a continuum of actions that push the boundaries of comfort when interacting with different others (nod/say hello, initiate conversation, introduce friends, make plans). The others described in the questions varied across the different courses (focusing on either brain/spinal cord injuries, sensory deficits, or class and race characteristics).

The 4RFHD assesses four dimensions: 1) sadness/sympathy → hopefulness/inspiration; 2) difficulty relating/sense of foreignness → empathy/sense of connection; 3) ignorance → cognitive knowledge; 4) awkwardness/fear of offending → comfort/approach. It poses a short scenario involving an assignment to a partner for a volunteer event activity that would last for several hours. As with the BTQ, the types of others depended on which set of courses was involved. For each type of other, respondents indicate where they would be most likely fall on each of the four dimensions.

Procedure

Project approval was obtained by the USAFA ethics review board. All participants received the two questionnaires during the first and last week of classes. The questionnaires were combined into a single document, with the BTQ placed first. Each questionnaire packet took students 7–8 minutes to complete and the instructions at the top clearly stated the voluntary nature of their completion. Students were instructed to put their names on the questionnaires so that data could be linked across the semester; however, the questionnaires were administered by a neutral third person not linked with the course. Students were informed that the instructors of the courses would not have access to the questionnaire responses until after final grades were submitted and that, once data were linked, names would be removed.

Developing RFHD

Approximately three quarters through the semester, students in the field-trip intervention courses participated in the half-day field trips. If a student was unable to participate ($n = 10$ in Biopsychology; $n = 7$ in S&P), they completed an alternative assignment and their questionnaire responses were not included in the data collection. Additionally, some lab simulations related to sensory deficits occurred within the normal, 53-minute S&P class periods throughout the semester, and the students in the class/race course read the book, *\$2.00 a Day: Living on Almost Nothing in America* by Edin and Shaefer. All three intervention courses included periodic discussions related to the specific types of others targeted by their intervention field trips. The hydraulics engineering course had no course outcomes or activities explicitly related to respect for human dignity or the groups targeted in the intervention courses.

For the field trip intervention courses, a pre-reflection paper was assigned one week prior to the field trip and due the lesson prior to the field trip, and a post-reflection was due the lesson after the field trip. These papers were graded for completion but not correctness. Student impressions and take-aways were discussed in class during the lesson following the field trip. The systematic inclusion of reflection

opportunities has been shown to lead to larger changes in personal, citizenship, and social learning outcomes than when they are not included (e.g., Conway, Amel, and Gerwien 2009), and they help the students become more self-aware of their beliefs and possible shifts in those beliefs (i.e., metacognition).

For their field trip, the Biopsychology students visited Craig Hospital, a brain/spinal cord rehabilitation center. During the semester reported on in this paper, the trip included a tour of the state-of-the-art facility, an opportunity to ask questions of the staff, and hands-on activities to enhance student awareness of the challenges of daily living. These activities included wheelchair navigation, painting with accessible instruments, and virtual reality therapy. These hands-on activities were new, replacing the previous years' high-impact interactions and conversations with program graduates that highlighted all the opportunities available to individuals with these injuries.

For their field trip, the S&P students visited Colorado Springs School for the Deaf and the Blind. The trip included tours of the school led by high school students who were either deaf/hard of hearing or blind/low vision. Key to the interactions was the establishment of an environment where students felt comfortable asking questions. Interpreters assisted communication with students/faculty from the school for the deaf. Students toured dorms, engaged in tasks, such as making a sandwich when blindfolded, navigated their environment with blindfolds, canes and guides, participated in a short sign language lesson, and, while blindfolded, played a friendly game of goal ball against a team of students from the school for the blind.

For their field trip, students in class/race visited Marian House, a soup kitchen. They started the day by hearing from three experts who were associated with the facility. The students then divided into small teams and worked on specific service projects. One team stayed upstairs with the kitchen crew and helped serve food, cleared tables, or washed dishes. The second team worked on beautification and maintenance projects outside. The third team worked in the donation area where they reorganized supplies and clothes. At lunchtime, the students stopped their projects and interacted with others coming to the soup kitchen while they all ate together.

RESULTS

We used the pre-post BTQ and 4RFHD responses to examine both sets of hypotheses. For each student attending a field trip, we calculated average response scores (on a 1–10 scale) for the types of others related to their course materials (e.g., we averaged responses related to others with visual and hearing impairments for the S&P students). For the control group students, we averaged their responses related to both the Biopsychology and the S&P courses. They did not respond to questions about others included in the class/race course, because we collected the control data prior to implementation in the class/race course. Final N's for each group were: S&P course ($n = 23$); Biopsychology course ($n = 28$); class/race course ($n = 40$), and control Fundamental Hydraulics Engineering ($n = 45$).

For the BTQ we performed a 4 course (Biopsychology, S&P, class/race, control) x 4 type of action (say hello, talk, introduce friend, make future plans) x 2 time (pre, post) mixed analysis of variance (ANOVA). This type of analysis yields indicators of the reliability of differences between groups and conditions. The course was a between variable (different participants in the different courses) and the others were within variables (all participants received all levels of these questionnaire manipulations). See Figure 1 for a graphical representation of the means and standard errors for each condition, and Table 1 for the ANOVA results and effect size results (partial eta squared column). Effect size indicates the magnitude of the group/condition differences (values of 0.01 indicate a small effect,

values of at least 0.06 indicate a medium effect, and values of 0.14 or greater indicate a large effect; Richardson 2011). As predicted, the questionnaire showed efficacy with respect to capturing significantly different boundaries of comfort based on different types of actions with others (note in the graph the increasingly lower reported mean likelihoods as actions moved from a simple “hello” greeting to making future plans—regardless of course or whether it was pre or post), as well as significant main effect for time (averaged across all courses), i.e., pre-post increases in mean likelihoods. These main effects show large effect sizes. More importantly, there was a significant course x time interaction with the control group showing no pre-post change, but all three field trip courses showing increases in mean likelihoods to interact with others by the end of the semester (also showing a large effect size). These findings support both the efficacy of the assessment tool as well as the positive impact of the field trip intervention.

Figure 1. Means for all conditions for the 4 (course) x 4 (type of action) x 2 (time) mixed ANOVA.

All groups except the control group show an increase in likelihood to engage in the target behaviors in the scenario.

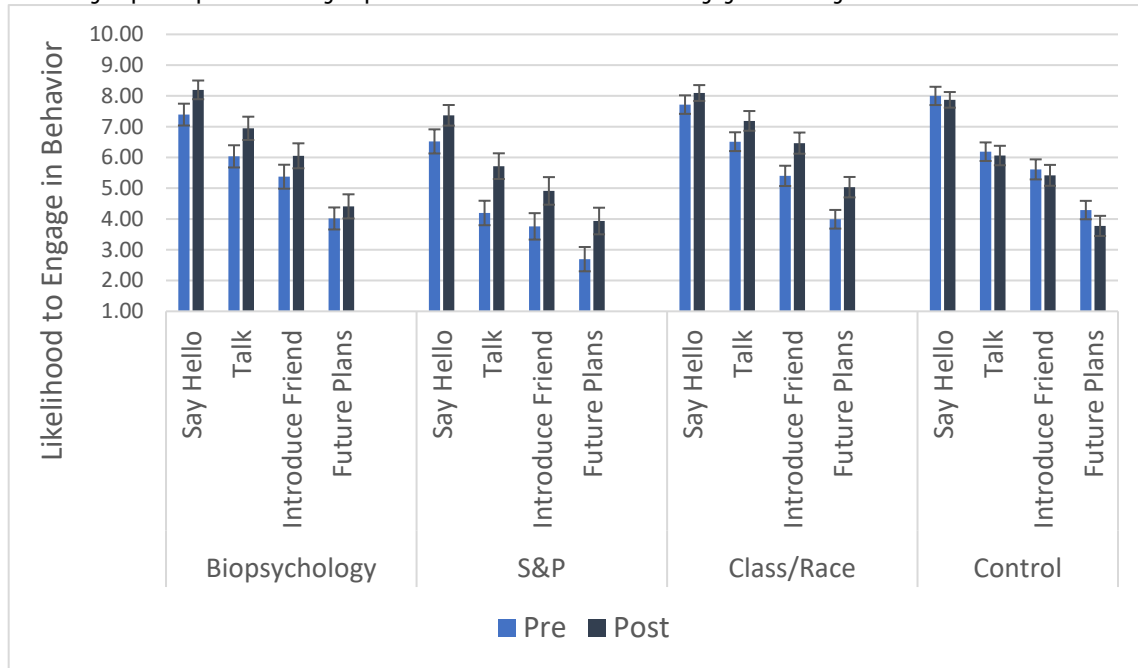


Table 1. ANOVA and effect size results for the 4 (course) x 4 (type of action) x 2 (time) mixed ANOVA for the Behavioral Tendencies Questionnaire (BTQ)

Condition	Sum of squares (SS)	Degrees of freedom (df)	Mean square (MS)	F	p	Partial eta squared
Course	242.97	3	80.99	4.10	.01	.09
Type actions	1688.82	3	562.94	322.43	.00	.72
Type actions x course	22.63	9	2.51	1.44	.17	.03
Time	91.38	1	91.38	26.127	.00	.17

Time x course	74.35	3	24.78	7.09	.00	.14
Type actions x time	2.83	3	.94	1.41	.24	.01
Type actions x time x course	10.60	9	1.18	1.76	.07	.04
Error	253.05	378	.67			

For the 4RFHD responses, we performed a 4 course (Biopsychology, S&P, class/race, control) x 4 dimensions (hopefulness, empathy, knowledge, and comfort) x 2 time (pre, post) mixed ANOVA. The course was a between variable and the others were within variables. See Figure 2 for a graphical representation of the means for each condition, and Table 2 for the ANOVA and effect size results. As predicted, the 4RFHD captured distinct pre-post changes in the four dimensions based on the specific course, with the control group overall showing much smaller pre-post shifts than the field trip courses. However, unlike previous semesters, neither the S&P course nor the Biopsychology course showed growth in the comfort dimension, and both courses (not just Biopsychology) showed an increase in the hopefulness dimension. Both groups also showed large gains in empathy (we believe due to the “try on” activities), which the Biopsychology students had not shown in the past. In contrast, the class/race course showed growth on all four dimensions. These findings support the efficacy of the assessment as well as the differential impact of the specific types of activities. For example, one possible reason why the S&P students showed increases in hopefulness this time was that several of the students with whom they interacted were older and shared their plans to attend college. Although more work still needs to be done, these results suggest that our four dimensions offer meaningful, and at least somewhat independent, contributions to the understanding of RFHD.

Figure 2. Means for all conditions for the 4 (course) x 4 (dimensions) x 2 (time) mixed ANOVA.

The significant time x course interaction suggests that the intervention led to overall gains in the RFHD dimensions when compared to the control group, although there are some variations for the individual dimensions based on the specific intervention activities across the three intervention courses.

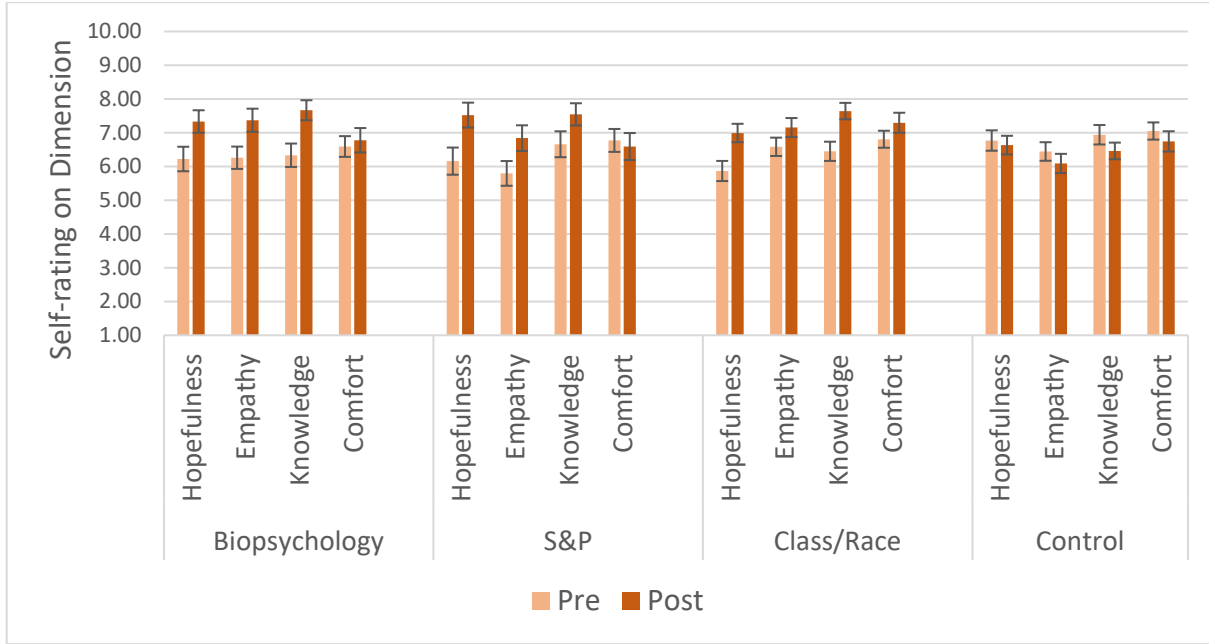


Table 2. ANOVA and effect size results for the 4 (course) x 4 (dimensions) x 2 (time) mixed ANOVA for the 4-Factor RFHD Model Questionnaire

Condition	Sum of squares (SS)	Degrees of freedom (df)	Mean square (MS)	F	p	Partial eta squared
Course	7.77	3	2.59	0.20	.89	.00
Dimensions	21.18	3	7.06	4.21	.01	.03
Dimensions x course	31.91	9	3.55	2.12	.03	.05
Time	75.25	1	75.25	23.16	.00	.16
Time x course	75.48	3	25.16	7.74	.00	.16
Dimensions x time	23.36	3	7.79	6.97	.00	.05
Dimensions x time x course	15.94	9	1.77	1.56	.12	.04
Error	253.05	378	.67			

DISCUSSION

Using the principles of intergroup contact theory to reduce prejudice, our research efforts designed and evaluated strategies for developing and assessing RFHD. Although the majority of

intergroup contact research has centered on racial conflict and often relies on correlational data, we experimentally applied these principles within the context of college courses across several years, reporting the most recent semesters in this paper. Our intervention centered on interactive field trips where students engaged with the different others in a variety of ways (e.g., conversations about life experiences, joint work efforts, simulation activities).

When we began our efforts, we found no assessments that focused on behavioral tendencies. Rather, those we found focused on prejudicial attitudes and beliefs (e.g., Krahe and Altwasser 2006) or general attitudes about respect for non-specified others (e.g., the RfP scale developed by Lalljee, Laham, and Tam 2007). Therefore, a meaningful contribution of our work is the creation of two assessments, the RFHD Behavioral Tendencies Questionnaire (BTQ), and the 4-Factor RFHD Model questionnaire. The everyday scenarios used in both questionnaires allow respondents to easily imagine the scenes and report their likely behaviors and attitudes, and the others in the scenarios are clearly identified as belonging to groups targeted by the intervention activities. The latter characteristic makes it easy to modify the scenarios to align with different types of others who might be the focus of interventions across different programs, courses, or activities. Although our samples were relatively small each year, our data showed consistent differences based on type of action, dimension, and time, which supports the efficacy of these instruments. The results of our comparisons with the control group also reinforce the idea that intergroup contact with specific groups can serve as a practical, applied means of improving group relations overall (Gonzalez and Brown 2003; Pettigrew and Tropp 2006). Finally, these assessments were easily adapted for different others as pertinent to the class/race course, supporting the practical value of the assessments and their potential use across a variety of courses and types of others.

The validity of our focus on the four dimensions of empathy, hopefulness, knowledge, and comfort is supported by others who have acknowledged similar dimensions, although not all four together. As noted above, prior research on prejudice reduction had already focused on three of the dimensions: knowledge, empathy, and anxiety—the inverse of comfort (e.g., Krahe and Altwasser 2006; Pettigrew and Tropp 2008; Swart et al. 2011). Recent efforts at Amherst College (e.g., Bunnell and Smith 2019; Jaswal 2019) specifically distinguish cognitive empathy (aligned with our dimension of knowledge) and affective empathy (aligned with our dimension of empathy, but also somewhat related to our dimension of hopefulness), so that they explicitly target the development of both. They suggest that many prior efforts to develop respect for others have failed because only the cognitive domain was developed. This conclusion aligns with Pettigrew and Tropp (2008), who found that knowledge of the out-group had less impact on reducing prejudice than reducing anxiety and increasing empathy. We believe that affect related to hopefulness signals respect because it indicates a perception that the other has positive potential, which in turn conveys a perception of value. Thus, our explicit inclusion of hopefulness as a dimension of RFHD represents an additional contribution of our work.

By challenging and reconfiguring students' mental models of various groups of "others" through face-to-face, high impact experiences, these interventions and assessments provide one avenue for higher education to foster citizenship: the development of respect for others (Graham 2006). If you believe one of the purposes of higher education is to develop good citizens, as we do, we encourage you to implement and adapt these, or other, evidence-based strategies in your classes to suit your students' needs. We believe these approaches could be implemented across a variety of disciplines beyond psychology, such as political science, sociology, leadership studies, and more. Some best practices we learned when designing our face-to-face experiences are: 1) acknowledge boundaries of comfort, 2)

consider boundaries when adapting assessments and interventions, 3) know that even slightly different experiences/interventions can change the nuances of how respect is developed, thus it is important to 4) continually assess your process, 5) circle back around to improve your processes based on data, 6) become well-informed about any groups with which you wish to interact, and 7) learn about intergroup contact theory and what researchers have discovered about positively bringing different groups of “others” together, given some interactions can create unintended, negative consequences. An overarching theme was the value of having a healthy dose of scientific and interpersonal humility. We found humility and sensitivity go a long way towards success in many educational endeavors that at their core are matters of the heart.

Directions for future research efforts in developing RFHD include investigation of generalization to different participants, types of others, places, and situations, and of the longitudinal impact of the interventions. Our earlier semesters of pilot results showed consistent patterns for specificity, in that self-reported behavioral tendency shifts more strongly aligned with the specific group of people with whom the students had interacted. Future questions to examine include the following: Do those specificity results indicate that RFHD has to be specifically developed for each group of others, or might there be some underlying process that could be developed, which would support generalization to other groups? How long do the positive increases in RFHD remain if there is no further contact with the others? Are the four factors of the respect model statistically independent components and/or are there others? We also acknowledge that, at this point, our work is limited to relatively small classes and our specific student population, which limits our ability to assess the impact of many demographic factors. While the control group comparison suggests that our findings were not fully the result of social desirability, there may have been some influence of that in our intervention group findings. We hope that scientist-educators from a variety of institutions and courses will use and/or modify our interventions and assessments for their specific courses and help build a body of data to further evaluate the reliability and validity of the assessments. Ultimately, these efforts will allow us to answer these important questions about how to most effectively develop RFHD.

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