Signs of Social Class and Anxiety

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ABSTRACT

When we think about economic inequality, we easily attribute it to the larger scale, systemic structures that legitimize and encourage its existence. This research aims to provide a more nuanced lens through which we can observe how economic inequality is perpetuated in everyday instances, particularly in regards to social class, class signaling, and their mediating relationship with anxiety. To explore these interactions, we simulated a mock-interview accompanied by experimental manipulations in the form of a hiring sheet that either encouraged participants to be authentic and to act like themselves, or made participants cognizant of the existence of social class signals and the variety of information that can be discerned based off of first impressions. We predicted that participants identifying as low status on the class spectrum would demonstrate increased anxiety during the interview. In consideration of the potential role of social class signals in either exacerbating or buffering anxiety-related behaviors, our secondary hypothesis posit that individuals exposed to the manipulation condition, where the role of class signaling was made evident, would also show heightened anxiety. Our results partially supported our hypotheses, as we found main effects of social class on some of our anxiety-related dependent variables, including externalized negative affect and speaking time. However, no significant interactions of social class or the condition were found for most of the other anxiety-related dependent variables. These results reveal the strength of the psychological effects of social class in everyday, interpersonal interactions.

Keywords: economic inequality, social class, class signaling, anxiety

1. LITERATURE REVIEW: THE CONTEXT OF STRUCTURAL INEQUALITY

In the past few weeks, news outlets have inundated our national consciousness with updates on the college admissions scandal, a situation in which wealthy celebrities and parents were caught committing fraud and/or paying bribes to help their children gain admissions into elite universities. While the obvious ethical problems of this practice have been called into question by the general public, these scandals bring into the conversation the inherently unequal experiences by which students of different social classes gain access to higher education. In discussing this scandal, some critics have highlighted the flaws in the concept of meritocracy, reminding the public that there are many ways that wealthy families get a leg up in the college admissions process. As compared to the methods used in the recent bribery scandal, many of these methods are legal: donations, legacy admissions, access to elite private education, college prep courses — and much more (Lombrado, 2019).

But this leg up is not confined to college admissions; you also find it in the context of every stage of opportunity toward social mobility. Society is heavily segregated on race and class lines, as is our K-12 education system, dividing educational opportunities between rich and poor and white and nonwhite communities at staggering levels of inequality (i.e., 23 billion dollars; Massey & Denton, 1988; Mervosh, 2019). And in the case where students actually make it to college, the opportunities there continue to be constrained, with less than 10 percent of students at top universities arriving to college from the bottom income quintile (Kraus & Tan, 2015).

It is easy to pretend that America and its education system exist as meritocracies, where regardless of your status you can access opportunities and excel in life as long as you simply work hard for it. However, this college admissions scandal — and its allusion to the structural disenfranchisement of low-income, minority communities — has helped reiterate the fact that

our education system is rigged, with the cards held in favor of the wealthy and often at the expense of those without power or influence (Domhoff, 1967). Regardless of how much hard work poor students put into pursuing mobility and education, there is no denying that their wealthier counterparts enjoy a distinctly unfair advantage accumulated from generations of wealth, resources, social capital, and power.

Situations like the college admissions scandal help direct discourse towards the ever-growing state of economic inequality present in the United States. In the past few decades, the United States has witnessed an unprecedented rise in economic inequality, with the wealth gap across class lines widening considerably (Piketty & Saez, 2014). Although Americans generally recognize that the current distribution of wealth across class lines is unequal (Norton & Ariely, 2011), research reveals that the status quo is much more extreme than most people expect: the richest 20 percent of U.S. households own more than 84 percent of the country's wealth, while the bottom 40 percent combined own a measly 0.3 percent (Wolff, 2012). To understand the explicit and implicit factors that mediate this rise in economic inequality, it is important to examine the factors that drive the creation of social class and the psychosocial effects that class boundaries impose on individuals within and between class lines.

Relevant to this research, barriers to opportunity exist in these structural situations as they do in interpersonal ones. Every encounter between two people at a university or within a job interview is marked by status characteristics that bring into a mundane interaction all the structural inequalities that exist in society (Berger & Ridgeway, 1978). These structural inequalities bias interactions so that traditionally lower status individuals tend to be seen as less competent than their higher status counterparts (Kraus, Park, & Tan, 2016; Rivera, 2016). In the present research, we attempted to better understand this process in social interactions and the

circumstances that shape how individuals from lower socioeconomic positions in society feel and behave in these contexts, particularly in regards to anxiety.

1.1 SOCIAL CLASS AS A STATUS CHARACTERISTIC

Social class, which mediates the organization of the social relationships and communities to which we belong, helps moderate different dimensions of inequality. Social class is hierarchical in structure and is measured in the currency of status. To determine social class hierarchies, it is necessary to compare how much status members of a specific class have in comparison to members of other classes. The stratification of status is moderated by three social dimensions: wealth, power, and prestige (Yitzhaki & Lerman, 1991). In more quantifiable terms, we can define social class as one's position in society as determined by a combination of annual income, educational attainment, and occupational prestige (Kraus et al., 2017).

Thus, status is the central mechanism behind the organizational structures of social class; it forms the basis of cultural status beliefs about group differences in competency, biases, and power (Ridgeway, 2014). These cultural status beliefs encourage and justify the unequal systematic allocation of resources and power across different class groups. As a result, these status-mediated beliefs perpetuate durable patterns of inequality based on social differences (Ridgeway, 2014).

Social status hierarchies lay the foundation for social organization across the animal kingdom. These hierarchical structures can be observed in a variety of species, from ants (Palmer et al., 2000), to bees (Breed & Moore, 2016; "The Colony and Its Organization"), to fish (Grosenick et al., 2007; Jordan et al., 2009), to birds (Schjelderup-Ebbe,1935; Tinbergen, 1936; Hobson et al., 2014), and primates (Franz et al., 2015; Cheney & Seyfarth, 1990).

Humans navigate various types of hierarchies throughout their everyday lives. Think about your childhood experiences in the classroom — teachers often used color-coded cards to visually differentiate and display to the classroom which students were well-behaved and which students were not. These categorizations often aligned with privileges (ie: line-leader, extra play time) or punitive measures (no recess, calling parents) that would be afforded to each student depending on whether or not they were well-behaved. In secondary school, these categorizations influence more than just your play-time; some schools systematically implement a tracking system to distinguish which students require remedial education and which students get to take Advanced Placement classes (Loveless, 2016; Burris & Garrity, 2008). These hierarchies and categorizations extend to our adult lives, from small to large instances: sports team affiliation and ranking, flight amenities and quality of treatment provided depending on how much you're willing to shell out for a plane ticket, types of restaurants you frequent based on what you're able to afford, the forms of transportation you use to get from place to place — the list goes on and on.

These small, innocuous forms of hierarchies are easily taken at face value as we experience them in our daily lives. However, these structures hint at an alarming bigger picture—a picture that becomes more defined when we consider the voice we have based on our role in the family, the privileges and access to resources and networks that we receive depending on the academic institution we attend, and the level of respect or power we command on the basis of our position in the workplace.

1.2 SOCIAL CLASS, GROUP FORMATION, AND SOCIALIZATION

People constantly undergo the process of sorting themselves and the individuals that they encounter into salient in-groups and out-groups. Previous studies reveal that very little is

required to activate the distinct separation of groups and the inherent *us* vs. *them* sentiment in individuals. This minimal group paradigm is explored in Tajfel et al.'s 1971 study, in which he arbitrarily sorted participants into two groups that represented supposed preference between two different artists: Group A was assigned as the Klee group while Group B was assigned the Kandinsky group. After this random assignment, participants performed a rewards allocation task, in which they were instructed to choose the amounts of rewards allotted to either a member of their group or a member of the opposing group. Results revealed the phenomenon of ingroup favoritism, in which individuals had a natural tendency to heavily favor members of their in-group over those from the out-group. This phenomenon has been duplicated a variety of times using other minimal cues such as t-shirt colors (Frank & Gilovich, 1988) and summer camp teams (Pechar & Kranton, 2018).

Tajfel & Turner (1979)'s Social Identity Theory helps explain the processes through which individuals categorize themselves as belonging to a variety of groups. As aforementioned, these groups may actualize as external associations such as a favorite sports-team or a pop-band affiliation. Alternatively, the foundation of these groups can also be rooted in more individual characteristics such as gender, sexuality, education, occupation, etc.. Supplementary to this self-categorization, individuals also undergo an appraisal process through which they evaluate which groups they feel like they belong to (in-group) and which groups they consider themselves not a member of (out-group). These evaluative and compartmentalizing processes constantly occur as individuals judge and compare the salience and value of their in-groups and outgroups (Trepte & Loy, 2017).

Social class serves as a main, continuous dimension that helps facilitate how individuals understand and relate to other sets of groups to which they belong (Zigler, 1968). As the main

dimension, social class dictates the politics of identity and belonging by controlling both the individual and the communal limitations of in-group and out-group formation. Through this process, social class directly affects the socialization and the formation of behavioral patterns of the individual. In one of his articles, Al-Faddaghi comments on how the socialization process is incredibly important because it pertains to the building of an individual's personality in a way that allows them to "develop, to self integrate, to self-balance and to adapt with the society and its culture" (n.d.). More specifically, this socialization process provides the individual with the information and cues necessary for them to perform the activities and actions required of the roles assigned to them in society.

Social class restricts the actions and resources of individuals across class boundaries. Thus, individuals are more likely to build social relationships and adopt the behaviors and values with groups and people that most resemble that of their own social class. The social learning process of the individual begins with the family. Extensive variations of child rearing practices and family structures across class lines help transfer the culture and values of the family's respective social class to the child (Zigler, 1968; Reardon, 2011; Al-Faddaghi, n.d.). This manifests through the attitudes held towards labor and the workplace, the types of leisure activities and hobbies experienced in the day-to-day, and the types of schools children attend. These sources of influence also extend to communities that the individual belongs in, which include clubs, sports teams, churches, etc. Thus, individuals are culturalized into the behavioral patterns unique to their own social class.

Social Identity Theory states that these groups provide an important source of belonging and self-esteem for individuals; as a result, individuals are more motivated to enhance the status of their in-groups because it in turn helps elevate their individual esteem and status. One way

that individuals bolster the status of their own groups is through stereotyping and discriminating against other out-groups. In ascribing negative views and prejudiced actions towards the out-group, the in-group's status is elevated while the out-group's status is lowered (Tajfel & Turner, 1979). Through this process, systems of discrimination, dehumanization, and unfair distribution of resources are created and maintained, leading to a dynamic in which groups with status and power are able to control the narrative of the status quo while groups without status and power suffer at the face of stigmatization and lack of resources.

1.3 SOCIAL CLASS SIGNALS

In their 2017 study, Kraus et al. explored how economic inequality is perpetuated in daily occurrences through the form of social class signaling. A plethora of studies have explored how people are able to glean a multitude of information and make snap judgments off of just first glimpses and impressions of people (Todorov & Uleman, 2002, 2003; Uleman, Blader & Todorov, 2005). While features like age and gender are easily identifiable, people can also make quick judgments on the trustworthiness and competence of individuals through only a brief exposure to their faces (Willis & Todorov, 2006).

But what about social class? Can people really make judgments about which social class an individual belongs to through just a brief encounter with them? In the realm of appearance, researchers found that social class can be accurately perceived by strangers based on static appearance cues such as shoes worn by participants (Gillath et al., 2012), employee photographs (Mast & Hall, 2004), and standard facial images (Bjornsdottir & Rule, 2016). Other studies reveal that a brief 60 second recording of an individual speaking or a Facebook profile picture is also enough for participants to accurately predict which social class the individual belongs to (Kraus & Keltner, 2009). These studies are a few of many that reveal how social status can be

revealed through the social perception process, whereby snap judgments are made using nonverbal behavioral cues and status symbols.

Kraus et al. (2017) explores this process of social class signaling and how such signals contribute to the perpetuation of economic inequality in daily occurrences. Social class signals can be broken down into three categories: 1) Body, 2) Voice, and 3) Culture (Kraus et al., 2017). Body class signals include physical aspects like kinesic behavior and physical appearance, ie. the gestures you make and your body language. Voice class signals focus more on linguistic and paralinguistic cues, such as your word choice and vocabulary. Lastly, culture class signals include clothing choices, leisure activities enjoyed, and preferences in different domains including music, art, brands, and literature.

The above studies and analysis by Kraus et al. (2017) set the stage for the present research where signals of social class act as boundaries in cross class interactions. As such, people lower on the socioeconomic hierarchy are likely to face disadvantages in the context of evaluative interactions, as their natural behavioral tendencies are marked by information that simultaneously reveals their lower standing in society and activates stereotypes on the associated skills and abilities implied by our faux meritorious system. Based on this analysis, we came to the central hypothesis that people with lower socioeconomic standing would experience greater anxiety in the context of a job interview. We made this prediction based on our understanding that the high status surroundings of a laboratory at a new building at Yale University would highlight the class boundaries separating those from lower status groups from the university contexts.

1.4 FROM LOW STATUS TO HEIGHTENED ANXIETY IN SOCIAL INTERACTIONS

Several studies suggest support for our central hypothesis that information about one's lower standing in a given interaction will promote anxiety. Previous literature has underscored that having higher status or belonging to a high social class is linked with better health outcomes. Individuals with higher socioeconomic status enjoy longer lives, better general well-being, and reduced risk of stress-related diseases and disorders (Adler et. al, 1994; Sapolsky, 2005; Knight & Mehta, 2017). These health benefits reveal a relationship between status and stress; in particular, these outcomes hint at the role of status in promoting and/or buffering stress effects.

The overall pattern of differential psychosocial stress markers in parallel to the status gradient can be observed across many different species in the animal kingdom. One study on olive baboons (*Papio anubis*) showed that higher ranking males expressed lower stress-related biomarkers, including lower basal cortisol levels, in comparison to subordinate male baboons (Sapolsky, 1992). Another longitudinal study on female cynomolgus macaques (*Macaca fascicularis*) demonstrated heightened primate sensitivity to social stressors. In this study, subordinate females within the hierarchy encountered more aggression, experienced decreased affiliative attention, and were more prone to depressive behaviors. In addition, lower-ranked females showed increased heart-rates, lower bone density, and higher visceral fat than their dominant counterparts. These symptoms increase lower-status females' liability to inflammatory diseases and impairment in their neurological and autonomic function (Shively & Day, 2015).

Stress results from the complicated interplay between neurophysiological, behavioral, psychological, and social variables. A plethora of studies have detailed how chronic stress can result in permanent neurobiological changes in the brain, which can lead to the development different mental disorders and medical conditions in humans and animals alike (Chappell et al., 1986; Kim et al., 2013; De Kloet et al., 2005). The stress response circuitry includes the

Hypothalamic-Pituitary-Adrenal Axis loop. In normal, healthy adults, the amygdala activates the ventral hypothalamus, which secretes corticotropin releasing factor (CRF) in response. CRF in turn stimulates the anterior pituitary, which then releases adrenocorticotropic hormone (ACTH). ACTH stimulates adrenal glands, leading to the release of glucocorticoids, which activates the peripheral autonomic nervous system and provides a negative feedback loop to the HPA axis (Smith & Vale, 2006).

This HPA axis loop provides the basis of the brain's stress response system. However, studies reveal that early childhood stress and adversity incite adverse changes to this system via the hypermethylation of glucocorticoid receptor genes. Hypermethylation affects the efficacy of glucocorticoid cells and suppresses their activation (Matosin et al., 2017). Because glucocorticoids are essential in regulating and inhibiting the HPA Axis, the hypermethylation of glucocorticoid cells results in hyperactivity in the HPA Axis, which consequently affects neuron health. Constant stimulation of the HPA axis, meaning hyperactivity in stress signals, results in the atrophy of the hippocampus due to the reduction of neurotrophins like BDNF in the hippocampus (Sapolsky, 2000). BDNF is responsible for exerting growth effects and retaining neural plasticity in the brain; thus, the reduction in BDNF levels in the hippocampus results in reduced dendritic arborization and neuron loss, as prominently observed through reduced hippocampal volumes (Conrad, 2008). This stressed-induced dynamic and decreases in hippocampal volume has been linked to both mood disorders and PTSD in several studies (Bremner et al., 1995; Sapolsky, 2000; Kitayama, et al., 2005).

These neurological relationships are corroborated by a series of studies linking statistics between childhood adversity, stress, and psychopathology. The Adverse Childhood Experiences (ACE) Study, ran by the CDC and Kaiser Permanente Collaboration, cross-referenced this

dynamic across 17,000 mainly white and middle-class participants. The results of this study showed that increases in childhood adversity correlated with higher prevalence of mood disorders, anxiety disorders, substance abuse, heart disease, financial stress, poorer work performance, and much more ("About the CDC-Kaiser," n.d.).

Although the present research will not specifically focus on the relationship between stress and status through a neurobiological lens, understanding of the compounding effects of status on our stress response circuitry helps paint a clearer picture on the cyclical nature of inequality. Chronic status-mediated stress can burden our stress response circuitry, which results in the hyperactivation and long-term deficits in the feedback system of the circuitry through hypermethylation of neurons. These deficits, albeit neurobiological, induce changes that affect our psychological and behavioral responses to everyday stimuli and interactions. With this, the cycle continues as status-mediated stress results in bad life and health outcomes, leading to potentially more stress and even worse outcomes. In context of social class, lower status people may more likely to find themselves stuck in this toxic cycle since they face more status-mediated stressors due to a lack of resources and systemic support; thus, this results in sustained inequality where poorer communities are unable to escape this cycle of poverty and the associated neurobiological, psychological, behavioral, and social risks that accompany such cycle.

1.5 CURRENT RESEARCH

Although numerous standardized protocols exist for inducing stress response in the laboratory, meta-analysis has shown that the Trier Social Stress Test (TSST) serves as one of the most useful and reliable protocols to study stress hormone in human participants (Birkett, 2011). The protocol usually requires the participant to prepare and deliver a speech as well as perform a difficult arithmetic problem in front of an evaluative audience (Kirschbaum et al., 1993). Thus,

the test consists of a combination of anticipation, public speaking, and arithmetic. In most studies, the speech preparation aspect is framed as part of a job interview. The uncontrollability and social evaluative are key components to the stress induction by the TSST. Using this stress response, researchers are able to measure differences in reactivity, anxiety, and activation of the Hypothalamic-Pituitary-Adrenal Axis during the task (Birkett, 2011). Several biomarkers of psychosocial stress are measured during the application of the TSST, including self-reported anxiety, physiological measures such as heart rate, blood-serum and salivary cortisol levels, prolactin, human growth hormone (hGH), and adrenocorticotropic hormone (ACTH) (Kirschbaum et al., 1993).

The Trier Social Stress Test has provided a strong foundation for several studies aiming to further understand the relationship between class, power, and social relationships. In two experiments using an adapted version of the TSST, Schmid & Schmid Mast found that experimental priming of high power in social relationships resulted in a significantly weaker increase in heart rate as compared to the low power condition (2013). Additionally, those in the high power condition showed less non-verbal signs of anxiety, reported less fear of evaluation, and received better scores on their tasks from different raters. Dickerson et al. argues that the heightened anxiety seen in low-status groups during evaluative and/or interpersonal contexts can be explained by the Social Self-Preservation Theory, which posit that social-evaluative threats elicit a psychophysiological and behavioral response in aversion to potential negative effects such as social exclusion or the loss of status (2004, 2009). In short, according to this theory, individuals with low status should demonstrate stronger reactions to additional threats to their already low status, as compared to their high status counterparts who are more secure in these socio-evaluative contexts.

Based on the above analysis, we established our central hypothesis that those with lower socioeconomic standing would experience heightened anxiety on a job interview. But to further investigate the contextual processes at work in this pattern of results, we further examined how context cues about the existence of class boundaries or not, might heighten or diminish such anxiety. This secondary prediction motivated the present study where we exposed all participants to a job interview where half of the interviews were randomly assigned a control message about "being yourself" as the best strategy for an interview whereas the other half received an intervention message that described the clear class boundaries in the interaction created by perceiving class cues in behavior.

2. STUDY OVERVIEW

2.1 PARTICIPANTS

The sample size consisted of 184 participants (99 female, mean age = 34.6, ranged from 18 to 73 years old), who partook in this study in exchange for a small monetary payment. Of the 184 participants, 108 identified as Caucasian/White, 37 identified as African American/Black, 9 identified as Asian American, 19 identified as Latinx, 1 identified as American Indian, and 10 responded with "Other." Target participants consisted of students and staff members from Yale University as well as community members from the greater New Haven area. Participants were recruited via an intake survey posted on Craigslist and later contacted to come in person to complete study. Due to experimenter error, some survey or audiovisual data was lost and thus, 10 participants were not included in the analyses.

2.2 EXPERIMENTAL DESIGN

The study was structured into three blocks. Participants began the study by completing a baseline survey on Qualtrics. After completing the initial baseline survey, participants were

informed that they would be recorded while completing a mock-interview for a fake job. After the interview was complete, participants were given an end survey to complete on Qualtrics. For each survey portion, a research assistant directed them to a computer, inputted their participant ID number, and left the participant alone in the room to complete the survey at their own pace. Participants were instructed to call for the research assistant once they finished each survey.

2.3 ANXIETY CODING SCHEME

A coding scheme was created to code the recorded interview sessions for anxiety. The original draft of the scheme included seven codes for anxiety-related behaviors previously noted in past literature: body language (McConnell & Leibold, 2001; Trawalter et al., 2012; Richeson & Trawalter, 2008; Stephan, 2014); fidgeting (Mahmoud & Robinson, 2016), externalized negative affect (Stephan, 2014), eye contact (Dovidio et. al, 1997; McConnell & Leibold, 2001), vocalized anxiety, speech interruptions (Dovidio et al., 2006; Stephan, 2014; McConnell & Leibold, 2001), and shorter speaking time (Dovidio et al., 2006; Ickes, 1984). Some of these codes ended up being excluded because they were difficult to quantify and/or could be misinterpreted in a variety of ways depending on the coder. An example of this includes body language and fidgeting; although they are anxiety-related behaviors, they are sometimes difficult to distinguish from personal characteristics (such as gestures) that participants may have when talking. As a result, the final draft of the scheme included duration of gaze aversion, externalized negative affect, and duration of speaking time.

Gaze Aversion. Gaze aversion was recorded in seconds. Time was recorded for duration of gaze aversion in instances that participant's head and/or gaze orientation faced away from the interviewer. This included both instances when the interviewer was speaking and/or asking the questions as well as when participants were answering the questions. To counterbalance the

possibility that participants were looking away as a thinking habit, time was recorded when participants looked downwards but not recorded when participants had an upward gaze, as to account for thinking (McCarthy et al., 2006).

Speaking Time. Speaking time was also recorded in seconds. Coding for duration of speaking time was broken down for each separate interview question, with an aggregate speaking time calculated at the end. Speaking time was recorded immediately when participants began answering the interviewer's question and stopped immediately after participants finished speaking. Using previous literature as precedent, when evaluating this code, we took longer speaking time as being indicative of less anxiety whereas shorter speaking time meant heightened anxiety (Dovidio et al., 2006; Ickes, 1984).

Externalized Negative Affect. Externalized negative affect was coded using a 7-Point Likert Scale *(1=Strongly Positive Affect, 7 = Strongly Negative Affect)*.

Subject ID	Negative Affect (1-7)	Gaze Aversion (s)	Q1 Time Stamp (s)	Q2 Time Stamp (s)	Q3 Time Stamp (s)	Q4 Time Stamp (s)	Q5 Time Stamp (s)	ST Total (s)
####	2	62	38	41	42	48	52	221

FIGURE 1. An example chart of the coding process for one participant.

2.4 RELIABILITY TESTING

A research assistant who had no previous exposure to the study was assigned to code the recorded mock-interview videos. The research assistant only had access to the videos and did not have access to any other source of information regarding the study or the participants. To test for reliability, both the research assistant and I had coded the first ten videos separately using the

anxiety coding scheme. Afterwards, several intra-class correlation coefficients were conducted via RStudio to test the reliability between our coding across the different codes and subsections.

Externalized Negative Affect (N=10) A moderate degree of reliability was found between coders for externalized negative affect, ICC2=.689 with a 95% confidence interval from .179 to .911 ($F(9,9) = 5.444$, p=0.009). We expected the reliability between coders for externalized negative affect to be moderate because the scale for externalized negative affect only spans from 1-7; thus, even a one value difference would result in drastic effects to reliability, especially with a 10-subject sample.

Gaze Aversion (N=10) A good degree of reliability was found between coders for gaze aversion, ICC2=.953 with a 95% confidence interval from .825 to .988 ($F(9,9) = 46.973$, p<0.001).

Speaking Time (N=10) An intra-class correlation coefficient was also conducted for speaking time for each of the five individual interview questions as well as for the aggregate speaking time across all questions. An excellent degree of reliability was found between coders for the first interview question, ICC2=.987 with a 95% confidence interval from .952 to .997 ($F(9,9)=153.087$, p<.001). Similarly, a good to excellent degree of reliability was found across coders for the second interview question, ICC2=.998 with a 95% confidence interval from .991 to .999, ($F(9,9)=1334.533$, p<.001); for the third interview question, ICC2=.931 with a 95% confidence interval from .748 to .982 ($F(9,9)=32.462$, p<.001); for the fourth interview question, ICC=.935 with a 95% confidence interval from .561 to .986 ($F(9,9)=51.309$, p<.001); and for the fifth interview question, ICC2=.950 with a 95% confidence interval from .824 to .987 ($F(9,9)=39.279$, p<.001). Lastly, a good degree of reliability was found between coders for

aggregate speaking time, ICC2=.959 with a 95% confidence interval from .778 to .991 ($F(9,9)=70.191$, $p<.001$).

After assessing the reliability between coders for the first ten videos, both the research assistant and I coded an additional 30 (total of 40) videos so that we could test the reliability of coding for at least 20% of the participant data.

Externalize Negative Affect (N=40) An intra-class correlation coefficient was conducted to test the reliability for negative affect between the two coders, resulting in a good degree of reliability, ICC2=.874 with a 95% confidence interval from .776 to .931 ($F(39,39)=14.912$, $p<.001$). With a higher sample size, there was a much higher degree of reliability between both coders for externalized negative affect.

Gaze Aversion (N=40) There was also a good degree of reliability for gaze aversion, ICC2=.913 with a 95% confidence interval from .842 to .953 ($F(39,39)=22.614$, $p<.001$).

Speaking Time (N=40) Just like before, an intra-class correlation coefficient was also conducted for the speaking time for each individual interview question and for aggregate speaking time. There was an excellent degree of reliability for question one, ICC2=.988 with a 95% confidence interval from .978 to .994 ($F(39,39)=172.032$, $p<.001$); for question two, ICC2=.992 with a 95% confidence interval from .984 to .996 ($F(39,39)=237.360$, $p<.001$); for question three, ICC2=.983 with a 95% confidence interval from .969 to .991 ($F(39,39)=122.340$, $p<.001$); and for question five, ICC2=.973 with a 95% confidence interval from .949 to .986 ($F(39,39)=73.160$, $p<.001$). With question four, we found a good degree of reliability, ICC2=.927 with a 95% confidence interval from .867 to .960 ($F(39,39)=26.315$, $p<.001$).

After good to excellent reliability was established between coders across each code within the anxiety coding scheme, the research assistant proceeded to complete the anxiety coding for all 184 participants.

2.5 BASELINE SURVEY

An online consent form was produced once participants started the baseline Qualtrics survey. Once consent was given, participants proceeded to answer demographic questions about a variety of subjects including race and gender. In addition to this, participants also encountered questions regarding their personality and perception of self in relation to society as well as their political views for social and economic issues.

Social class. Several questions about participants' demographics and sense of self-perception were asked with the intention of having the values later serve as social class variables for analysis. Participants were asked to report the highest level of education obtained in their family and also personally. These values were scored on a three-point scale (1 = "High school or less," 2 = "4-year college degree," 3 = "Advanced degree (Master's, etc…)"). Additionally, participants also reported their household income, which was scored on an eight-point scale (1 = "$15,000," 2 = "$15,001-30,000," 3 = "$30,001-50,000," 4 = "$50,001-75,000," 5 = "$75,001-100,000," 6 = "$100,001-125,000," 7 = "125,001-150,000," 8 = ">$150,000"). Participants also reported their occupation status, of which the values were scored on a 3-point scale (1 = "Unemployed" or "Full-time student," 2 = "Part-time employed," 3 = "Full-time employed"). Lastly, participants completed the MacArthur Scale of Subjective Social Status, with which they were shown an image of a "social" ladder that represented socioeconomic status and position in society, and were instructed to select the rung on the ladder with which they felt reflected their place in society. This was scored on a 10-point scale, with 1 meaning that

participants perceived themselves as belonging at the bottom of society, and 10 meaning that participants perceived themselves as belonging at the top of society.

Personality. In addition to social class-related questions, participants also completed the Ten Item Personality Inventory (TIPI), which was scaled on a 7-Point Likert Scale *(1 = Strongly Disagree, 7 = Strongly Agree)*, and the Belief in a Just World (BJW) Scale, which was also measured on a 7-Point Likert Scale.

Network. Furthermore, participants were asked about the type of people they typically interacted with in their neighborhood growing up, their current neighborhood, their current social relationships, and their current work relationships on the basis of race and social class. Both conditions were measured on a 4-point Likert scale (1=*All the same race as you,* 2=*Mostly the same race as you,* 3=*Mostly of a different race,* 4=*All of a different race; and* 1=*All the same social class as you,* 2=*Mostly the same social class as you,* 3=*Mostly of a different social class,* 4=*All of a different social class;* respectively).

2.6 INTERVIEW PROTOCOL

The interview was conducted by a lab assistant and commenced directly after the participant completed the baseline Qualtrics survey. The research assistant began by reminding participants that they would be recorded for this portion of the study, in which they will be interviewing for a mock job. Afterwards, the research assistant immediately began the video recording. To start the interview, the research assistant asked a general control question not related to the mock-job:

> "We like to get started slowly, so for this first question I'll ask a general non job relevant question: How would you describe yourself? This description can be about anything, your family members, hobbies, some of your traits or abilities or things you enjoy doing, any jobs or things you are working on right now. It's up to you."

Following the control question, participants were randomly assigned to one of two conditions (authentic, first impressions) and given a mock hiring letter from the hiring manager. In addition, participants were provided a job description packet of the mock-job that they were interviewing for. The job description packet listed no specific prerequisites for education levels or past experience. Participants were told to read through the materials at their own pace and left alone in the room while reviewing the materials. Once participants finished reviewing the material, they called the research assistant back into the room.

In both conditions, the hiring letter emphasized that there were no formal prerequisites for the position. In the control authentic condition (N = 99), participants were encouraged to be themselves for the interview as to promote more authentic interactions and not set up false expectations. In the manipulation first impressions condition (N = 88), participants were directly made cognizant of social class signaling and informed that strangers can accurately discern information about a person's personal, family and economic background just based off on first impressions.

Once participants were finished reviewing the hiring letter and job description packet, the lab assistant returned to the room and conducted the interview by asking a series of four questions:

1) Do you think that you are qualified for this position? Why or why not?

2) Is there something about your personal background that makes you a good fit for this job?

3) Can you describe one experience you had in a position of leadership? How did that go and what did you learn?

4) Last question: Do you have a weakness that might make this job challenging? If so,

please explain.

Recording stopped once participants finished answering the last question.

2.7 END SURVEY

After completing the interview portion of the study, participants were again directed to the computer, at which they were told to complete an end survey on Qualtrics.

Self efficacy and performance. The survey began by checking in with the participants on how they felt they performed during the interview. This reflection was mediated by informing participants that the proposed starting salary for the job was $42,000/year. From this information, participants were instructed to report how much money they would personally set as their starting salary (on a scale from $32,000 to $52,000) based on how they felt about their interview performance and overall skills. Additionally, participants were informed that the proposed job had a starting one-time signing bonus with a value up to $5,000. Similarly with the starting salary question, participants were asked to set their starting bonus (on a scale from 0-5, measured in thousands) based on how they felt about their interview performance and overall skills. Besides the monetary measures, participants were asked to reflect on whether they thought they left a positive impression, whether they felt the interview went well, and how likely they felt they'd be hired in comparison to other potential candidates. Their answers were measured on a 4-point Likert scale (*1=Not At All, 2=Slightly, 3=Moderately, 4=Very Much*). These questions were given with the intention of later being used as dependent variables for analysis.

Generational Mobility. After the self-efficacy and perception of performance portion, participants were presented with questions about their feelings on generational mobility. First, participants were asked to think about their children and grandchildren as adults. Participants were instructed to think of their future and/or imaginary child and grandchild as adults if they did

not yet have children and/or grandchildren. With this in mind, the first prompt asked participants to rate what they believed their child and grandchild's highest level of education would be on a 3-point scale (*1=High school or less, 2=4-year college degree, 3=Advanced degree (Master's, etc.)*). Afterwards, participants rated on how much they believed their child and grandchild's highest level of family income would be on a 8-point scale (*1=Less than $15K, 2=$15K-30K, 3=$30K-50K, 4=$50K-75K, 5=$75K-100K, 6=$100K-125K, 7=$125K-150K, 8=More than $150K*). Finally, participants were again presented with the MacArthur Scale of Subjective Social Status. This time, however, participants were asked to reflect on which rung they believed their child or grandchild would fall on as a reflection of their child's and grandchild's place in society.

Self-esteem. Once participants completed questions about generational mobility, they were presented with the Rosenberg Self Esteem Scale, which is a 10-item scale that measures self worth with consideration to both positive and negative feelings about the self. This inventory was measured on a 5-point Likert scale (*1=Strongly disagree, 5=Strongly agree*). Participants were additionally given an 8-item Self Efficacy Scale that was measured on the same 5-point Likert scale as that of the Rosenberg Self Esteem Scale. Although the Self Efficacy Scale obviously reported participants' feelings on their own efficacy beliefs, the values were not chosen to be included as part of the variables later used as dependent variables for analysis. This decision was made because the scale revealed more about participants' general self efficacy beliefs and less in regard to their actual interview performance.

The last portion of the survey involved testing participants' memory through asking participants to identify which hiring sheet they were presented with during the interview. Afterwards, participants were asked to describe what they believed the study was about.

Participants were also asked to respond with whether or not they took the survey seriously. This was important to keep in mind for exclusion, as for us to avoid having skewed data for analysis. Finally, the survey ended by debriefing participants on what the study was about.

3. RESULTS AND ANALYSIS

3.1 STANDARDIZING VARIABLES

Independent variables. Questions relating to social class from the baseline Qualtrics survey were used as independent social class variables for analysis. This ultimately included participant data obtained from questions about highest household and personal education levels (HOUSE-ED, SELF-ED; respectively), occupation status (OCUP), household income (INCOME) and the MacArthur Subjective Social Status scale (COMMUNITY-LADDER). These five social class variables were scaled and standardized into one composite average (zClass) using RStudio. The variables were standardized into one averaged scale to counterbalance the differences in value range across each variable. For example, occupation status was scored on a scale from 1-3 whereas household income was scored on an 8-point scale. Therefore, standardizing the variables allowed for more accurate comparisons.

Dependent variables. Likewise, the dependent variables of this study were also standardized for analysis through RStudio. However, these variables were not compiled into one composite average because the study aimed to see how social class affected each dependent variable separately. The variables selected for analysis included the three codes from the anxiety coding scheme: externalized negative affect (NEGATIVEAFFECT), gaze aversion (GAZEAVERSION), and speaking time. The data for speaking time was separated into six variables, one for each of the five interview questions and an additional one for aggregate speaking time (Q1ST, Q2ST, Q3ST, Q4ST, Q5ST, STTotal; respectively). In addition to the

anxiety scheme codes, some dependent variables were also obtained from the end survey questions regarding interview self-efficacy beliefs and perception of performance. These variables included proposed salary (PRO-SALARY), proposed bonus (PRO-BONUS), positive impression (POS-IMPR), interview performance (INT-PERF), and hiring comparison (HIRE).

3.2 MODERATED REGRESSIONS

General schematic. Because I was trying to explore the relationship between social class and awareness of social class signaling on anxiety, I decided to run moderated regressions for all dependent variables. With this, the two main effects would be social class variables (zClass) and the condition variable (CONDITION; 0 = control/authenticity, 1 = manipulation/first impressions), with the interaction being social class:condition and the dependent variables being the anxiety scheme codes and survey questions. The following analyses will have varying degrees of freedom due to omission of "N/A" responses within each variable. Please see Appendix __ for the RStudio code used to run these moderated regressions.

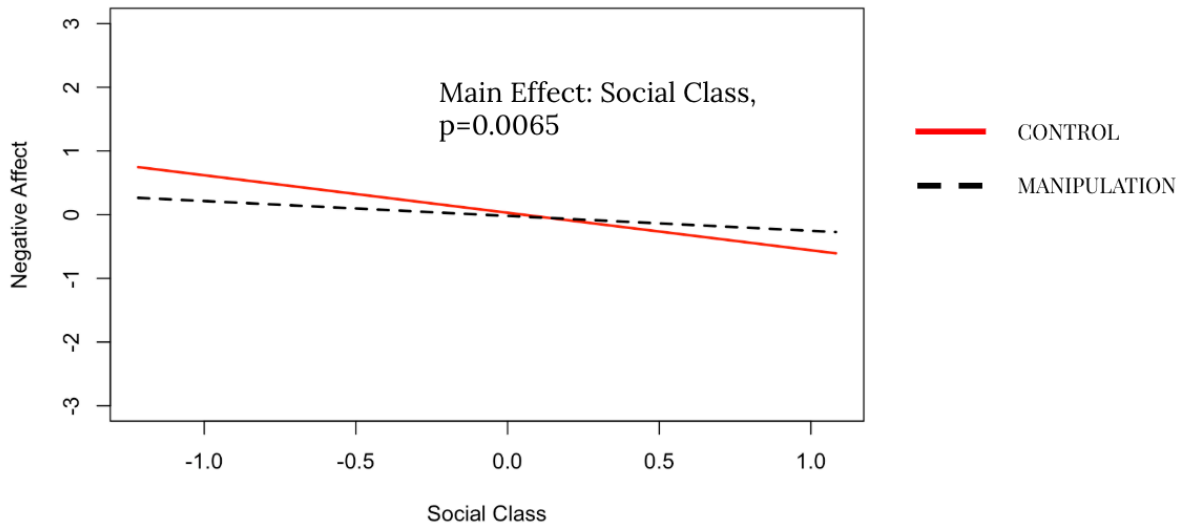

FIGURE 2 Status but not condition had a negative main effect on negative affect, which means that participants identifying as lower status were rated as having higher externalized negative affect.

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Externalized negative affect. A moderated regression was used to test the interaction between social class and the condition manipulation on negative affect. A main effect of social class on negative affect was found, $\beta = -.59$, $t(178) = -2.75$, $p = .0065$. Thus, we find that status but not condition had a negative main effect on anxiety, which means that participants identifying as lower status were rated as having higher externalized negative affect while those identifying as higher status were rated as having lower externalized negative affect.

Gaze aversion. A moderated regression was used to test the interaction between social class and the condition manipulation on gaze aversion. No main effects were found for social class and condition on gaze aversion, indicating that neither social class nor being cognizant of class signaling had a significant effect on gaze aversion across different social classes.

Speaking time. Multiple moderated regressions were used to test the interaction between social class and the condition manipulation on speaking time. No main effects were found for social class and condition on the first and fourth interview question.

A positive marginal effect of condition on speaking time was found for the second interview question, $\beta = .25$, $t(184) = 1.71$, $p = .0891$. This means that those who were made aware of class signaling (first impressions condition) spoke more when asked to provide some information about their personal background that might make them fit for the mock job position in comparison to those from the control condition. This may be the case because knowledge that class signals can reveal a myriad of information about a person's background, even during first

impressions, may encourage participants to perform and present themselves more thoroughly to reflect higher competency and a more suitable background for the job.

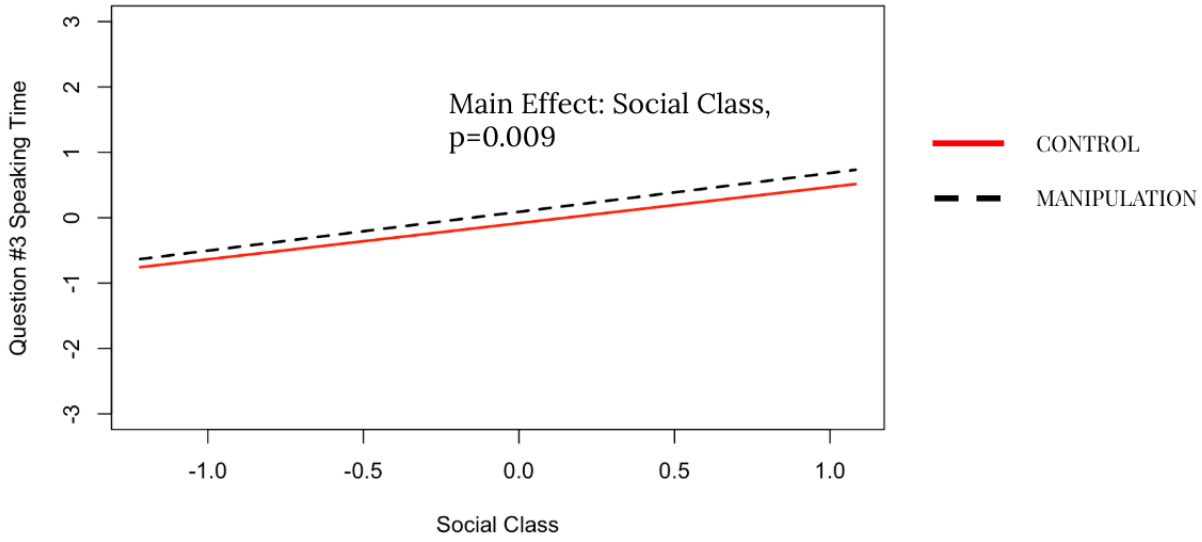

FIGURE 3. Status but not condition had a positive main effect on speaking time for the third interview question, meaning that participants identifying as lower status spoke less than those identifying as high status.

A main effect of social class on speaking time was found for the third interview question, $\beta = .55$, $t(184) = 2.63$, $p = .0092$. Thus, we find that status but not condition had a positive main effect on speaking time for the third question, which means that participants identifying as lower status generally spoke less than those identifying as high status.

Lastly, a marginal effect of social class on speaking time was found for the fifth question, $\beta = .42$, $t(184) = 1.97$, $p = .0504$ as well as for aggregate speaking time, $\beta = .42$, $t(184) = 1.95$, $p = .0523$. This reveals that people identifying as being higher status marginally spoke more when answering the interview questions than those identifying as being lower status.

Proposed salary. A moderated regression was used to test the interaction between social class and the condition manipulation on the proposed salary variable. No main effects were found for social class and condition on proposed salary, indicating that neither social class nor being cognizant of class signaling had a significant effect on people's proposed starting salary input across different social classes.

Proposed bonus. A moderated regression was used to test the interaction between social class and the condition manipulation on the proposed bonus variable. No main effects were found for social class and condition on proposed bonus, indicating that neither social class nor being cognizant of class signaling had a significant effect on people's proposed bonus input across different social classes.

Positive Impression. A moderated regression was used to test the interaction between social class and the condition manipulation on the positive impression variable. No main effects were found for social class and condition on perceived position impression left, indicating that neither social class nor being cognizant of class signaling had a significant effect on people's perception on whether or not they left a positive impression during their interview.

Interview performance. A moderated regression was used to test the interaction between social class and the condition manipulation on the interview performance variable. No main effects were found for social class and condition on perceived interview performance indicating that neither social class nor being cognizant of class signaling had a significant effect on people's perception on whether or not they left a positive impression during their interview.

Hiring and social comparison. A moderated regression was used to test the interaction between social class and the condition manipulation on the hiring variable. No main effects were found for social class and condition on hiring variable, indicating that neither social class nor

being cognizant of class signaling had a significant effect on people's perception on whether or not they would likely be hired over others for the mock job position.

4. GENERAL DISCUSSION

4.1 STUDY SUMMARY

For this project, I wanted to further explore the role of status and social class signals on anxiety and how this relationship manifests itself in everyday life. Thus, the study was formed using a set-up inspired by the Trier Social Stress Test, a protocol meant to induce physiological and neurobiological stress responses under experimental conditions. For our study, the test was amended to be a mock interview for a mock job. The study was structured into three blocks, with participants first completing a baseline Qualtrics survey, then partaking in a recorded mock interview, and ending by completing an end Qualtrics survey. During the mock interview, participants were randomly introduced to either the control condition, in which they were encouraged to be authentic and true to themselves, or the manipulation condition, in which they were explicitly made aware of social class signaling and the information people can ascertain from such signals during first impressions.

The results from the study provided partial evidence that these interview conditions induced generally higher levels of anxiety for people identifying as low status. Specifically, analysis of standardized social class and condition variables on anxiety-related dependent variables revealed that there was a negative main effect of social class on externalized negative affect, meaning that people identifying as low status showed more negative affect as compared to their high status counterparts. Additionally, analysis of the speaking time for the individual interview questions and for aggregate speaking time showed that there was: 1) a positive main effect of social class on speaking time for interview question #3, which means that people

identifying as high status talked longer when answering the third interview question; 2) a positive marginal effect of social class for the fifth interview question, and 3) a positive marginal effect of social class for the aggregate speaking time. Additionally, there were no main effects of social class, condition, or their interaction for the rest of the dependent variables, which included gaze aversion, proposed salary, proposed bonus, positive impression, and hiring variables. In conclusion, main effects of social class emerge for externalized negative affect and for speaking time in some questions. However, for the most part, there was little evidence of anxiety being moderated by our condition, which was the manipulation on social class signaling. I believe this is because the class boundaries (which will be further discussed in the next section) were visible enough within the study to affect behavioral responses even when we provide a control condition in which people are encouraged to be themselves.

4.2 LIMITATIONS AND FUTURE DIRECTIONS

A big limitation to this senior project was the study design itself. Modeling off the Trier Social Stress Test, the experimental design, given that it was a mock job interview, was already meant to induce anxiety regardless of other factors such social class. Additionally, the study was hosted at the Yale School of Management. Thus, our participants, who were mostly from the greater New Haven area, had to step into a possibly intimidating and unfamiliar setting that's very closely associated with elitism and high status to partake in the study. As a result, it is possible that the anxiety behaviors exhibited during the recorded interview sessions were conflated with these external factors and the anxiety-inducing experiences that they can potentially create, especially for lower status people. Extrapolating from this possible problem, the lack of significant main effects for most of the dependent variables may have been the result of mutually shared feelings of anxiety across all participants. With a shared layer of anxiety, it

may have made it more difficult for either the social class variables or the conditions to produce a strong, significant effect on the different dependent anxiety-related variables.

For future studies, inclusion of different conditions such as a self-affirmation task may help counterbalance and reduce the overall anxiety that participants feel before actually undergoing the mock-interview. Additionally, it would be very interesting to explore this type of study using a different experimental design that is not already heavily anxiety-inducing. For example, I would be interested to explore the role of social class and class signaling on anxiety through viewing the interactions between a participant and a confederate who presents as someone from a drastically different or a similar social class as the participant (i.e., cross-class or cross-race interactions). Another everyday setting that may be interesting to explore as possible experimental designs include confederate teaching/learning scenarios. Jacoby-Senghor et al. previous ran a study that revealed how implicit racial biases in cross-racial teaching interactions resulted in heightened anxiety and poorer performance in conditions where the instructor and the students were not of the same race (2016). Likewise, it would be interesting to further explore this type of interaction with consideration to social class manipulations.

Aside from the experimental design, it would helpful to explore the main effects of gender among not only participants but also the interviewers. There were multiple research assistants throughout the course of the data collection process of the study who helped run the recorded mock interviews. The interviewer assigned to each participant was randomized. However, it may have been interesting to see how differences in the race and gender may have affected participant comfort and anxiety levels, particular in situations where the participant and interviewer's race or gender are not the same.

Similarly with gender, doing further analysis on the main effects of race, both in consideration of participants and of the interviewers, may yield interesting relationships between race, social class, and anxiety. Additionally, observing the interplay between race, class, and gender can provide for better understanding on how different stratifications complicate how we perceive and categorize other people's status markers.

Lastly, while aggregating the social class independent variables helped with the analysis through providing a multifaceted, standardized main effect, doing so may have resulted in some variables masking the effects of other variables after being averaged. Thus, while this may require more work, disaggregating the independent social class variables for analyses would provide a more robust lens through which we can explore different components of social class and how they individually may affect anxiety levels.

4.3 APPLICATIONS AND IMPLICATIONS

This research is incredibly important when trying to understand the existence of economic equality, especially within the context of constrained upward social mobility. In the last few decades, the United States has witnessed a drastic drop in absolute mobility, which is a measure of how well a person does in comparison to their parents. Chetty et al.'s analysis of the U.S. Census and the Current Population Survey revealed that rates of absolute mobility dropped from around 90% for children born in 1940 to 50% for children born in the 1980s (2017).

When we think of inequality, we often think of the structural systems in place that maintain its existence. However, this study reveals the importance of exploring the psychosocial dynamics of inequality that are at play in interpersonal contexts. There are so many social and evaluative settings in which signs of status moderate behavior due to activation of expectations and biases. This includes to relationships and interactions within the classroom, the workplace,

interviews, etc.; every mundane conversation between two people from different social classes is coded with information inferred from these different status signals. This dynamic is especially taxing and anxiety-inducing for people of lower status, who have to reconcile the stereotypes and expectations placed upon them from these social class signals. In turn, concern over stigmatization may negatively affect the way people perform and/or present themselves in these evaluative contexts. When we better understand the different status-related mechanisms that affect the way people from different class groups interact and present themselves, we can thus gain a better understanding of what mediates economic inequality in everyday occurrences.

AUTHOR CONTRIBUTION

Kraus developed the experimental design of the study, which included the Qualtrics surveys and interview protocol. Several lab assistants and Truong helped conduct the study with participants. Truong coded 40 of the recorded interviews alongside Delgadillo, who coded all videos, for reliability testing. Kraus and Torrez provided guidance for the literature review, which was written by Truong. Truong cleaned the data and co-wrote the code in RStudio with Torrez for data analysis. Kraus and Torrez provided ongoing feedback to the drafts of this paper.

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APPENDIX A: BASELINE QUALTRICS SURVEY

B-Lab Baseline Qs

Start of Block: Default Question Block

Q42 Please Enter the Participant ID # in the space provided:

_____

Page Break

Q1 **Purpose:** You are invited to participate in a research study designed to examine *how people think and feel about society.* You have been asked to take part because you are an adult US citizen in the greater New Haven community. We will be conducting this study with 1,000 people throughout the New Haven, CT area, and testing will occur at the behavioral lab in the School of Management. **Procedures:** If you agree to take part, your participation in this study will involve *surveys of your beliefs about society, and video recorded conversations with other people.* We anticipate that your involvement will require *1 hour.* You will receive *$20 for your participation and an extra $5 to cover costs of transportation to the behavioral lab* in the School of Management (e.g., parking meter or bus fair). **Risks and Benefits:** There are no known or anticipated risks associated with this study. However, *some questions may make you uncomfortable and* there is the possible risk of loss of confidentiality. Every effort will be made to keep your information confidential; however, this cannot be guaranteed. Although this study will not benefit you personally, we hope that our results will add to the knowledge about *how people think about the structure of society and the policies they may be likely to support to shape society in the future.* **Confidentiality:** All of your responses will be *held in confidence*. Only the researchers involved in this study and those responsible for research oversight *(such as the Yale University Human Subjects Committee)* will have access to any information that could identify you/that you provide. *To minimize risk of loss of confidentiality all identifying information on videos and names on consents will be stored separately from all other questionnaire responses, which will be linked by code number. Materials will be kept in password protected data files on secure servers provided by Yale University.* Please remember that while we (the researchers) will keep your information confidential and will remind all participants that what is said in the laboratory should not be repeated outside of the laboratory, we have no control over what happens outside of the lab. You are reminded to not share anything you wouldn't want repeated outside of this space. **Voluntary Participation:** Your participation in this study is voluntary. You are free to decline to participate, to end your participation at any time for any reason, or to refuse to answer any individual question without penalty. Your decision whether to participate or not will have no effect your relationship with the university. **Questions:** If you have any questions about this study, you may contact the principal investigator, *Michael Kraus at michael.kraus@yale.edu or 203-432-6034.* If you would like to talk with someone other than the researchers to discuss problems or concerns, to discuss situations in the event that a member of the research team is not available, or to discuss your rights as a research participant, you may contact the Yale University Human Subjects Committee, 203-785-4688, human.subjects@yale.edu. Additional information is available at http://your.yale.edu/research-support/human-research/research-participants
If you would like to participate in the study please select "Yes" below.
Would you like to participate in the lab study?

- ○ Yes (1)
- ○ No (2)

Page Break

End of Block: Default Question Block

Start of Block: Questions

Q13 I see myself as...

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Extraverted, enthusiastic. (1)	○	○	○	○	○	○	○
Critical, quarrelsome. (2)	○	○	○	○	○	○	○
Dependable, self-disciplined. (3)	○	○	○	○	○	○	○
Anxious, easily upset. (4)	○	○	○	○	○	○	○
Open to new experiences, complex. (5)	○	○	○	○	○	○	○
Reserved, quiet. (6)	○	○	○	○	○	○	○
Sympathetic, warm. (7)	○	○	○	○	○	○	○
Disorganized, careless. (8)	○	○	○	○	○	○	○
Calm, emotionally stable. (9)	○	○	○	○	○	○	○
Conventional, uncreative. (10)	○	○	○	○	○	○	○

Page Break

Q17 What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Please specify: (3) _____

Page Break

Q21 What is the highest level of education completed?

	high school or less (1)	4-year college degree (2)	Advanced degree (Master's etc...) (3)
In your household growing up: (1)	○	○	○
Your highest education: (2)	○	○	○

Q25 What ethnic/racial category do you identify with most?

- ○ European American/White (1)
- ○ African American/Black (2)
- ○ Asian American (3)
- ○ Latino/a (4)
- ○ American Indian (5)
- ○ Another Racial Group (please specify) (6) _____

Page Break

Q27
Please indicate your political views using the scale below:

	Very liberal (1)	Liberal (2)	Slightly liberal (3)	Moderate (4)	Slightly conservative (5)	Conservative (6)	Very conservative (7)
For economic issues, I am (1)	○	○	○	○	○	○	○
For social issues, I am (2)	○	○	○	○	○	○	○

Page Break

Q29 Below you will find various statements. Most likely, you will strongly agree with some statements, and strongly disagree with others. Sometimes you may feel more neutral. Read each statement carefully and decide to what extent you personally agree or disagree with it. Indicate the number which corresponds to this judgment. Make sure you circle a number for every statement.

	Strongly disagree (7)	Disagree (8)	Somewhat disagree (9)	Neither agree nor disagree (10)	Somewhat agree (11)	Agree (12)	Strongly agree (13)
I think basically the world is a just place. (1)	○	○	○	○	○	○	○
I believe that, by and large, people get what they deserve. (2)	○	○	○	○	○	○	○
I am confident that justice always prevails over injustice. (3)	○	○	○	○	○	○	○
I am convinced that in the long run people will be compensated for injustices. (4)	○	○	○	○	○	○	○
I firmly believe that injustices in all areas of life are the exception rather than the rule. (5)	○	○	○	○	○	○	○

I think people try to be fair when making important decisions. (6)	○	○	○	○	○	○	○

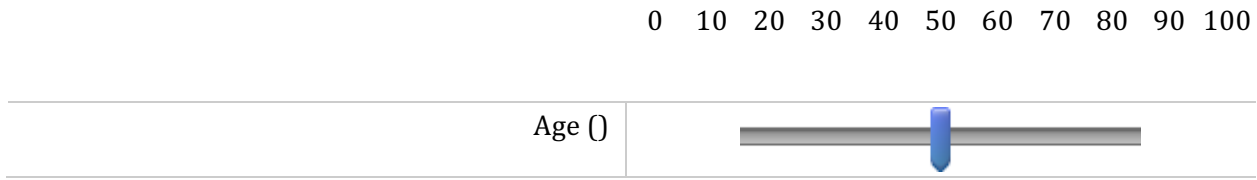
Page Break

Q31 What is your current occupation

- ○ Full time employed (please specify) (1) _____
- ○ Part-time employed (please specify) (2) _____
- ○ Unemployed (for how long?) (3) _____
- ○ Full time student (4)

Page Break

Q33 How old are you? (in years)



Q23 In current US dollars, what is your annual family income for your household? Make your best estimate.

- (1)
- $15,001-$30,000 (2)
- $30,001-$50,000 (3)
- $50,001-$75,000 (4)
- $75,001-$100,000 (5)
- $100,001-$125,000 (6)
- $125,001-$150,000 (7)
- >$150,000 (8)

Page Break

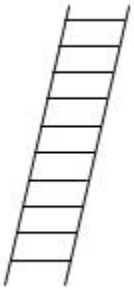
Q35 Are the people you typically interact with:

	All the same race as you (1)	Mostly the same race as you (2)	Mostly of a different race (3)	All of a different race (4)
In your neighborhood growing up (1)	○	○	○	○
In your current neighborhood (2)	○	○	○	○
In your current social relationships (3)	○	○	○	○
In your current work relationships (4)	○	○	○	○

Q37 Now please consider social class (e.g., education, income, and occupation) for the same questions. Are the people you typically interact with:

	All the same social class as you (1)	Mostly the same social class as you (2)	Mostly of a different social class (3)	All of a different social class (4)
In your neighborhood growing up (1)	○	○	○	○
In your current neighborhood (2)	○	○	○	○
In your current social relationships (3)	○	○	○	○
In your current work relationships (4)	○	○	○	○

Q39 In the area where you live (your community), think of this ladder as where people stand. At the top are all the people with the most money, the most education, and the very best jobs. At the bottom are the people with the least amount of money, the least education, and the worst jobs or no job. Where would you place yourself on this ladder, relative to other people in your local community.



Q41 In the area where you live (your community), where would you place yourself on the ladder above?

- ○ top rung 10 (1)
- ○ 9 (2)
- ○ 8 (3)
- ○ 7 (4)
- ○ 6 (5)
- ○ 5 (6)
- ○ 4 (7)
- ○ 3 (8)
- ○ 2 (9)
- ○ bottom rung 1 (10)

Page Break

End of Block: Questions

APPENDIX B: INTERVIEW MATERIALS

MANIPULATION CONDITION
June 1st, 2018

Dear Job Applicant:

Thank you for your interest in our open job for an associate of research and teaching in organizations. The job has no formal prerequisites for the position and primarily, we are interested in a person who is willing and excited to learn and grow within this job over the next year.

Decades of behavioral science research indicate that **first impressions are remarkably accurate.** Even with small amounts of incidental information about the way you speak, the clothes you wear, and the seemingly insignificant things you say during brief interactions, **strangers can accurately discern a host of information about who you are and where you come from.** This includes **demographic characteristics like your family's educational and economic background** and personality traits like extraversion and anxiety. In short, we will know much about you before you have the chance to tell us about it.

Given this research on first impressions, we find that it is useful to answer the questions as honestly and accurately as possible. As you answer the questions, feel free to add as much or as little background detail to your answers as you would like. Remember there are no right or wrong answers to this interview.

Thank you for your application, and best of luck!

Michael

Michael Kraus
Assistant Professor of Organizational Behavior
Michael.kraus@yale.edu

CONTROL CONDITION
June 1st, 2018

Dear Job Applicant:

Thank you for your interest in our open job for an associate of research and teaching in organizations. The job has no formal prerequisites for the position and primarily, we are interested in a person who is willing and excited to learn and grow within this job over the next year.

Decades of behavioral science research indicate that **being honest and authentic is the best approach to a job interview.** Dozens of studies find that **overly positive first impressions can lead people to have unrealistic expectations** of your behavior in the future. In contrast, honesty and authenticity improve communication and understanding between strangers.

Given this research on first impressions, we find that it is useful to answer the questions as honestly and accurately as possible. As you answer the questions, feel free to add as much or as little background detail to your answers as you would like. Remember there are no right or wrong answers to this interview.

Thank you for your application, and best of luck!

Michael

Michael Kraus
Assistant Professor of Organizational Behavior
Michael.kraus@yale.edu

JOB DESCRIPTION PACKET
01-Jun-2018

Associate in Research and Teaching of Organizations

School of Management - OB
49060BR
Yale Posting Status
OPEN

Bargaining Unit
None - Not included in the union (Yale Union Group)

Compensation Grade
Administration & Operations

Work Location
Central Campus

Work Week
Standard (M-F equal number of hours per day)

Total # of hours to be worked:
37.5

Position Focus:
Responsible for supporting research and teaching of organizational behavior. Manages projects related to leadership, group processes, status and power, stereotyping and prejudice. Performs a variety of duties involving the design of research studies and collection of data. Develops and manages a participant database comprised largely of community members. Assists with participant recruitment, scheduling, and oversight. Submits and maintains IRB protocols. Oversees budgeting and ordering of lab equipment. Designs, runs, and analyzes online and laboratory-based experiments. Participates in the preparation of written and oral presentations that summarize the analysis of data, interprets the findings and provides conclusions and recommendations. May perform other duties as assigned.

Required Education and Experience
None required, but applicant must be eager to learn and develop new skills in organizational behavior, related to teaching and research. The primary requirements include a person who is able to work within teams and who is eager to learn and grow on the job.

Weekend Hours Required?

Occasional

Drug Screen
No

Posting Disclaimer
The intent of this job description is to provide a representative summary of the essential functions that will be required of the position and should not be construed as a declaration of specific duties and responsibilities of the particular position. Employees will be assigned specific job-related duties through their hiring departments.

Affirmative Action Statement:
Yale University considers applicants for employment without regard to, and does not discriminate on the basis of, an individual's sex, race, color, religion, age, disability, status as a veteran, or national or ethnic origin; nor does Yale discriminate on the basis of sexual orientation or gender identity or expression. Title IX of the Education Amendments of 1972 protects people from sex discrimination in educational programs and activities at institutions that receive federal financial assistance. Questions regarding Title IX may be referred to the University's Title IX Coordinator, at TitleIX@yale.edu, or to the U.S. Department of Education, Office for Civil Rights, 8th Floor, Five Post Office Square, Boston MA 02109-3921. Telephone: 617.289.0111, Fax: 617.289.0150, TDD: 800.877.8339, or Email: ocr.boston@ed.gov.

APPENDIX C: END QUALTRICS SURVEY

B-Lab End Survey Qs

Start of Block: Default Question Block

Q3 Please Enter the Participant ID # in the space provided:

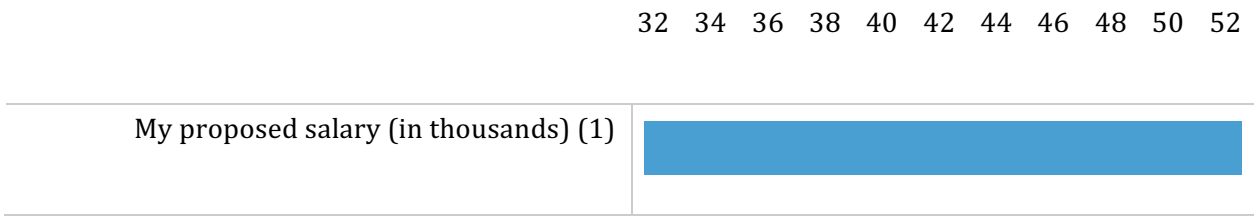
_____

Page Break

End of Block: Default Question Block

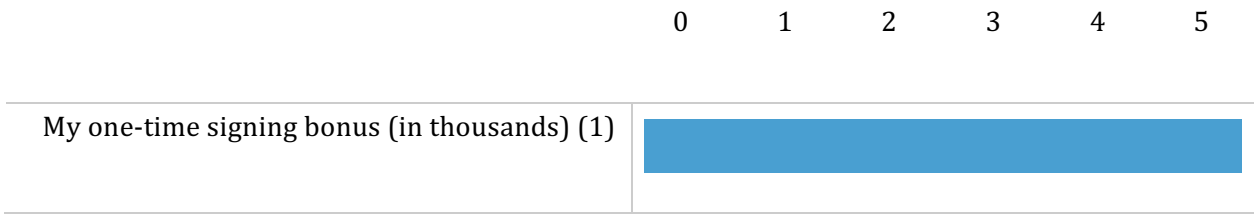
Start of Block: Questions

Q11 The proposed starting salary for the advertised position is $42,000 ($42K) annually including health and dental benefits through Yale. Based on your interview performance and overall skills, what would you set as your own starting salary?



Page Break

Q12 The proposed job also has an option to receive up to $5,000 ($5K) in a one-time signing bonus at the start of employment. Based on your interview performance and overall skills, what would you set as your signing bonus?



Page Break

Q10 Please answer the following questions based on your interview:

	Not at all (1)	Slightly (2)	Moderately (3)	Very Much (4)
Do you think you made a positive impression in your job interview? (1)	○	○	○	○
Do you think the interview went well? (2)	○	○	○	○
If there was only one available position and five other people were interviewed, do you think you would be hired based on your interview? (3)	○	○	○	○

Page Break

Q15 If you have children that are not yet adults think of them now. If you do not yet have children, think about what your child might be like when they are an adult.

What will their highest level of education be?

	high school or less (1)	4-year college degree (2)	Advanced degree (Master's etc...) (3)
Your child (real or imagined) (1)	○	○	○
Your grandchild (real or imagined) (2)	○	○	○

Page Break

Q17 If you have children that are not yet adults think of them now. If you do not yet have children, think about what your child might be like when they are an adult.

What will their highest level of family income be?

		$15K-$30K (2)	$30K-$50K (14)	$50K-$75K (15)	$75K-$100K (16)	$100K-$125K (17)	$125K-$150K (18)	>$150K (19)
Your child (real or imagined) (1)	○	○	○	○	○	○	○	○
Your grandchild (real or imagined) (2)	○	○	○	○	○	○	○	○

Page Break

Q21
Think again about the ladder representing society where those with the most money, education, and best jobs are at the top, and those with the worst of those things are at the bottom. Now think of your child (real or imagined) as an adult. Where would you place them on this ladder?

	bottom 1 (1)	2 (2)	3 (4)	4 (5)	5 (6)	6 (7)	7 (8)	8 (9)	9 (10)	top 10 (11)
Your child (real or imagined) (1)	○	○	○	○	○	○	○	○	○	○
Your grandchild (real or imagined) (2)	○	○	○	○	○	○	○	○	○	○

Page Break

Q7 Please answer the following questions based on how you feel in general.

	Strongly disagree (29)	Somewhat disagree (30)	Neither agree nor disagree (31)	Somewhat agree (32)	Strongly agree (33)
I feel that I'm a person of worth, at least on an equal basis with others. (1)	○	○	○	○	○
I feel that I have a number of good qualities. (2)	○	○	○	○	○
On the whole, I am satisfied with myself. (3)	○	○	○	○	○
I am able to do things as well as most other people. (4)	○	○	○	○	○
I take a positive attitude toward myself. (5)	○	○	○	○	○
All in all, I am inclined to feel that I'm a failure. (6)	○	○	○	○	○
I feel I do not have much to be proud of. (7)	○	○	○	○	○
I wish I could have more respect for myself. (8)	○	○	○	○	○
I certainly feel useless at times. (9)	○	○	○	○	○

At times I think I am no good at all. (10)	○	○	○	○	○

Page Break

Q9 Please answer the following questions based on how you feel in general.

	Strongly disagree (47)	Somewhat disagree (48)	Neither agree nor disagree (49)	Somewhat agree (50)	Strongly agree (51)
I will be able to achieve most of the goals that I have set for myself. (1)	○	○	○	○	○
When facing difficult tasks, I am certain that I will accomplish them. (2)	○	○	○	○	○
In general, I think that I can obtain outcomes that are important to me. (3)	○	○	○	○	○
I believe I can succeed at most any endeavor to which I set my mind. (4)	○	○	○	○	○
I will be able to successfully overcome many challenges. (5)	○	○	○	○	○
I am confident that I can perform effectively on many different tasks. (6)	○	○	○	○	○

Compared to other people, I can do most tasks very well. (7)	○	○	○	○	○
Even when things are tough, I can perform quite well. (8)	○	○	○	○	○

Page Break

End of Block: Questions

Start of Block: Debrief

Q15 Prior to conducting our mock job interview today you received one of two letters from the hiring manager. Please pick the letter that you read before your interview. You received one of these letters right before you learned more about the job interview.

This is a test of your memory. Which letter did you read?

- (1)
- (2)

Page Break

Q16 What do you think this study was about? Please give your best guess by typing a response in the box below.

_____

_____

_____

_____

_____

Page Break

Q18 The study is very important to us and a considerable amount of time and effort has gone into creating this survey. As such, if for whatever reason you feel that you did not complete the survey carefully, it would be a big help to us if you let us know this now. *Your response will in no way affect your compensation.*

- ○ I DID complete the survey carefully. (1)
- ○ I DID NOT complete the survey carefully. (2)

Page Break

Q22 In this study we were interested in how people think about society and its structure. According to national statistics America is not as fairly structured as it could be. Though mobility in society is technically possible through education or creating innovation, the statistical reality is that people don't experience much mobility in economic outcomes above and beyond that of their parents. This is compounded when thinking of race—people of color disproportionately face past and current policies that lead resources to be concentrated outside of their ranks. Much of the research on how people think about society and its structure has been conducted on computer screens where people report their reactions to society information, usually presented with statistical data. Our study is a little different in that we were wondering how people's behavior changes when they learn some information about how society might be hard to move through. In this study you were presented with a prompt that suggested our interview staff could know a great deal about you and your family history prior to you even talking to us. We were interested in how knowing this information might change your interview behavior. **We will provide a copy of the debriefing form if you would like one. In the meantime. We look forward to your participation in the behavioral lab at Yale in the near future. Thanks again for working with us on this study. This research is important for understanding how businesses can expand opportunities to all people, and we couldn't have done it without your help!**

Questions: If you have any questions about this study, you may contact the principal investigator, *Michael Kraus at michael.kraus@yale.edu or 203-432-6034.* If you would like to talk with someone other than the researchers to discuss problems or concerns, to discuss situations in the event that a member of the research team is not available, or to discuss your rights as a research participant, you may contact the Yale University Human Subjects Committee, 203-785-4688, human.subjects@yale.edu. Additional information is available at http://your.yale.edu/research-support/human-research/research-participants

If you are interested in learning more about what we talked about today, please go to the following resources: Kraus, M. W., & Tan, J. J. X. (2015). Americans overestimate social class mobility. Journal of Experimental Social Psychology, 58, 101-111. http://www.sciencedirect.com/science/article/pii/S0022103115000062 Kraus, M. W., Piff, P. K., & Keltner, D. (2009). Social class, sense of control, and social explanation, Journal of Personality and Social Psychology, 97, 992-1004. https://www.nytimes.com/2015/05/03/opinion/sunday/american-dream-or-mirage.html?_r=0

End of Block: Debrief

APPENDIX D: RSTUDIO CODE

CaS Analysis

Levi Truong

3/26/2019

```
#Creating standardized IV variables
d1$INCOME <- as.numeric(d1$INCOME)
d1$INCOME_z <- scale(d1$INCOME)[,1]

d1$SELF.ED <- as.numeric(d1$SELF.ED)
d1$SELF.ED_z <- scale(d1$SELF.ED)[,1]

d1$OCUP <- as.numeric(d1$OCUP)
d1$OCUP_z <- scale(d1$OCUP)[,1]

d1$HOUSE.ED <- as.numeric(d1$HOUSE.ED)
d1$HOUSE.ED_z <- scale(d1$HOUSE.ED)[,1]

d1$COMMUNITY.LADDER <- as.numeric(d1$COMMUNITY.LADDER)
d1$COMMUNITY.LADDER_z <- scale(d1$COMMUNITY.LADDER)[,1]

#standardizing all variables along same scale
d1$zClass <- (d1$INCOME_z + d1$SELF.ED_z + d1$OCUP_z + d1$HOUSE.ED_z + d1$COM
MUNITY.LADDER_z)/5
```

results

```
#Negative Affect
moderatedreg_negativeaff <- moderate.lm(zClass, CONDITION, NEGATIVEAFFECT_z,
d1, mc=TRUE)
summary(moderatedreg_negativeaff)

##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.57051 -0.67838 -0.09377  0.90696  2.98068
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.03024    0.10071   0.300   0.7643
## mcx         -0.58850    0.21370  -2.754   0.0065 **
## mcz         -0.04973    0.14647  -0.340   0.7346
```

```
## mcx:mcz      0.35498    0.30869   1.150   0.2517
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9846 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.04666,    Adjusted R-squared:  0.03059
## F-statistic: 2.904 on 3 and 178 DF,  p-value: 0.03625
```

```
#Gaze Aversion
moderatedreg_gazeaversion <- moderate.lm(zClass, CONDITION, GAZEAVERSION_z, d
1, mc=TRUE)
summary(moderatedreg_gazeaversion)
```

```
##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.0980 -0.5752 -0.3407  0.2390  6.2413
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.08129    0.10358  -0.785    0.434
## mcx          0.22323    0.22061   1.012    0.313
## mcz          0.16528    0.15061   1.097    0.274
## mcx:mcz     -0.13118    0.32290  -0.406    0.685
##
## Residual standard error: 1.002 on 174 degrees of freedom
##   (6 observations deleted due to missingness)
## Multiple R-squared:  0.01291,    Adjusted R-squared:  -0.004111
## F-statistic: 0.7585 on 3 and 174 DF,  p-value: 0.5188
```

```
#Q1 Speaking Time
moderatedreg_q1st <- moderate.lm(zClass, CONDITION, Q1ST_z, d1, mc=TRUE)
summary(moderatedreg_q1st)
```

```
##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.0862 -0.5397 -0.2716  0.1395  7.9167
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.01553    0.10212   0.152    0.879
## mcx          0.24624    0.21667   1.136    0.257
## mcz         -0.03517    0.14890  -0.236    0.814
```

```
## mcx:mcz      0.09323    0.31487   0.296    0.768
##
## Residual standard error: 0.9983 on 177 degrees of freedom
##   (3 observations deleted due to missingness)
## Multiple R-squared:  0.01999,    Adjusted R-squared:  0.003379
## F-statistic: 1.203 on 3 and 177 DF,  p-value: 0.31

#Q2 Speaking Time
moderatedreg_q2st <- moderate.lm(zClass, CONDITION, Q2ST_z, d1, mc=TRUE)
summary(moderatedreg_q2st)

##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.4387 -0.5912 -0.2843  0.2248  3.9878
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.11570    0.09992  -1.158   0.2484
## mcx          0.34397    0.21201   1.622   0.1065
## mcz          0.24842    0.14531   1.710   0.0891 .
## mcx:mcz      0.22890    0.30625   0.747   0.4558
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9768 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.06165,    Adjusted R-squared:  0.04583
## F-statistic: 3.898 on 3 and 178 DF,  p-value: 0.009942

#Q3 Speaking Time
moderatedreg_q3st <- moderate.lm(zClass, CONDITION, Q3ST_z, d1, mc=TRUE)
summary(moderatedreg_q3st)

##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.8049 -0.6399 -0.1626  0.3936  4.3658
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.08343    0.09900  -0.843  0.40051
## mcx          0.55307    0.21006   2.633  0.00921 **
## mcz          0.17337    0.14397   1.204  0.23013
## mcx:mcz      0.04067    0.30344   0.134  0.89354
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9678 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.07882,    Adjusted R-squared:  0.0633
## F-statistic: 5.077 on 3 and 178 DF,  p-value: 0.002137
```

```
#Q4 Speaking Time
moderatedreg_q4st <- moderate.lm(zClass, CONDITION, Q4ST_z, d1, mc=TRUE)
summary(moderatedreg_q4st)
```

```
##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.2321 -0.5312 -0.2204  0.2184  7.8741
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.05837    0.10219  -0.571    0.569
## mcx          0.27267    0.21684   1.257    0.210
## mcz          0.12087    0.14862   0.813    0.417
## mcx:mcz     -0.01987    0.31323  -0.063    0.949
##
## Residual standard error: 0.9991 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.0184, Adjusted R-squared:  0.001858
## F-statistic: 1.112 on 3 and 178 DF,  p-value: 0.3455
```

```
#Q5 Speaking Time
moderatedreg_q5st <- moderate.lm(zClass, CONDITION, Q5ST_z, d1, mc=TRUE)
summary(moderatedreg_q5st)
```

```
##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.3650 -0.7082 -0.2258  0.3690  3.9224
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.06313    0.10142  -0.622   0.5345
## mcx          0.42397    0.21520   1.970   0.0504 .
## mcz          0.12673    0.14750   0.859   0.3914
## mcx:mcz     -0.13070    0.31087  -0.420   0.6747
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9915 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.03315,    Adjusted R-squared:  0.01685
## F-statistic: 2.034 on 3 and 178 DF,  p-value: 0.1108
```

```
#Aggregate Speaking Time
moderatedreg_STtotal <- moderate.lm(zClass, CONDITION, STTotal_z, d1, mc=TRUE
)
summary(moderatedreg_STtotal)
```

```
##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.5675 -0.5905 -0.2355  0.3721  6.0618
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.07003    0.10069  -0.695   0.4877
## mcx          0.41750    0.21365   1.954   0.0523 .
## mcz          0.14338    0.14683   0.977   0.3301
## mcx:mcz      0.04749    0.31047   0.153   0.8786
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9844 on 177 degrees of freedom
##   (3 observations deleted due to missingness)
## Multiple R-squared:  0.04717,    Adjusted R-squared:  0.03102
## F-statistic: 2.921 on 3 and 177 DF,  p-value: 0.03549
```

```
#Proposed Salary (Self-efficacy, perception of performance)
moderatedreg_PROSALARY <- moderate.lm(zClass, CONDITION, PRO.SALARY_z, d1, mc
=TRUE)
summary(moderatedreg_PROSALARY)
```

```
##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.44934  0.03516  0.37929  0.54186  1.00133
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.0651     0.1027   0.634    0.527
## mcx          -0.1011     0.2178  -0.464    0.643
```

```
## mcz          -0.1262     0.1485  -0.850    0.396
## mcx:mcz       0.2887     0.3099   0.932    0.353
##
## Residual standard error: 1.004 on 180 degrees of freedom
## Multiple R-squared:  0.009378,   Adjusted R-squared:  -0.007132
## F-statistic: 0.568 on 3 and 180 DF,  p-value: 0.6368
```

```
#Proposed Starting Bonus (Self-efficacy, perception of performance)
moderatedreg_PROBONUS <- moderate.lm(zClass, CONDITION, PRO.BONUS_z, d1, mc=T
RUE)
summary(moderatedreg_PROBONUS)
```

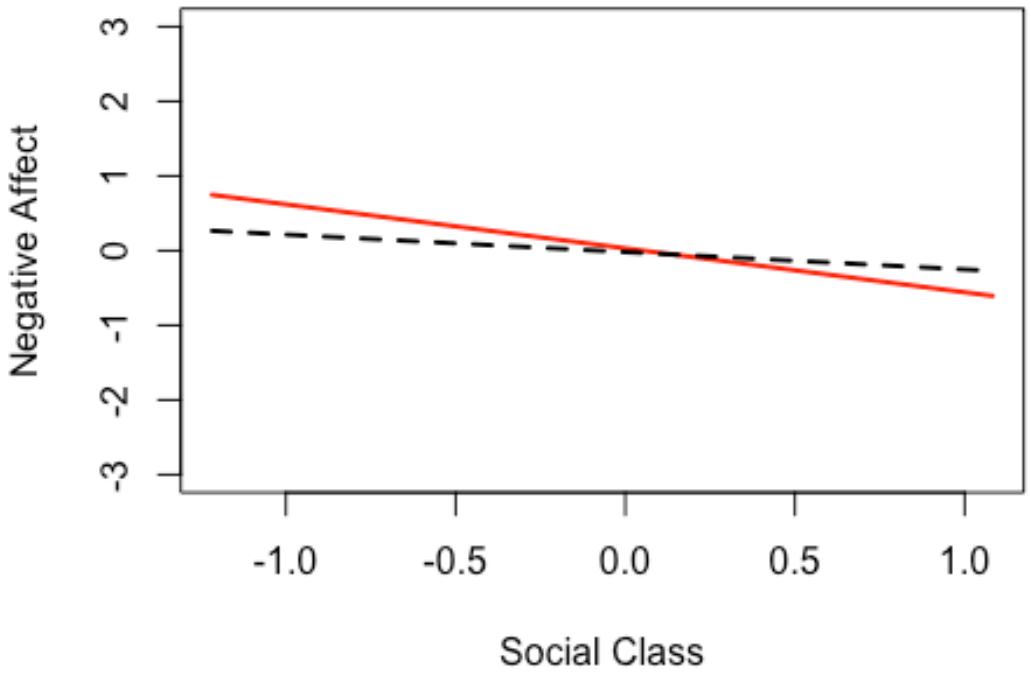
```
##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.91129 -0.60535  0.01145  1.00610  1.41136
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.04025    0.10253  -0.393    0.695
## mcx          0.28289    0.21756   1.300    0.195
## mcz          0.07815    0.14829   0.527    0.599
## mcx:mcz     -0.17529    0.30956  -0.566    0.572
##
## Residual standard error: 1.002 on 180 degrees of freedom
## Multiple R-squared:  0.01167,    Adjusted R-squared:  -0.004799
## F-statistic: 0.7086 on 3 and 180 DF,  p-value: 0.548
```

```
#Positive Impression (Self-efficacy, perception of performance)
moderatedreg_POSIMPR <- moderate.lm(zClass, CONDITION, POS.IMPR_z, d1, mc=TRU
E)
summary(moderatedreg_POSIMPR)
```

```
##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.11900 -0.77921  0.06978  1.01383  1.37064
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.07938    0.10229   0.776    0.439
## mcx          0.15162    0.21704   0.699    0.486
## mcz         -0.17902    0.14793  -1.210    0.228
## mcx:mcz     -0.38054    0.30882  -1.232    0.219
##
```

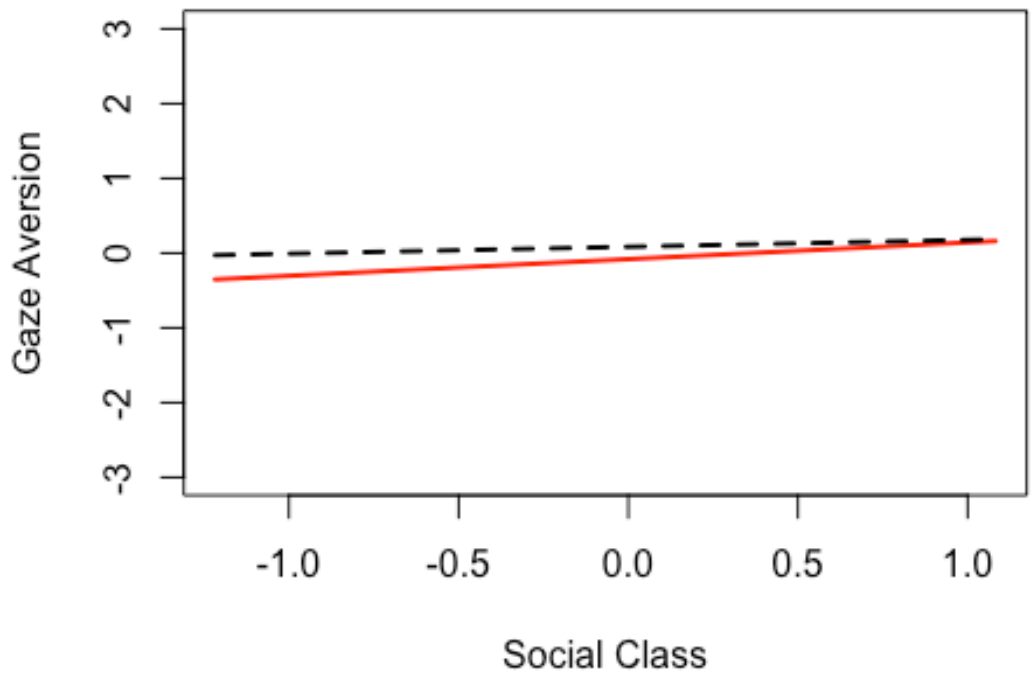
```
## Residual standard error: 1 on 180 degrees of freedom
## Multiple R-squared:  0.01637,    Adjusted R-squared:  -2.813e-05
## F-statistic: 0.9983 on 3 and 180 DF,  p-value: 0.395

#Interview Performance (Self-efficacy, perception of performance)
moderatedreg_INTPERF <- moderate.lm(zClass, CONDITION, INT.PERF_z, d1, mc=TRU
E)
summary(moderatedreg_INTPERF)

##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -2.1371 -0.9160  0.1361  1.1358  1.2643
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.01429    0.10302   0.139    0.890
## mcx         -0.11210    0.21859  -0.513    0.609
## mcz         -0.02878    0.14899  -0.193    0.847
## mcx:mcz      0.03229    0.31102   0.104    0.917
##
## Residual standard error: 1.007 on 180 degrees of freedom
## Multiple R-squared:  0.002306,   Adjusted R-squared:  -0.01432
## F-statistic: 0.1387 on 3 and 180 DF,  p-value: 0.9368

#Hiring, Social Comparison (Self-efficacy, perception of performance)
moderatedreg_HIRE <- moderate.lm(zClass, CONDITION, HIRE_z, d1, mc=TRUE)
summary(moderatedreg_HIRE)

##
## Call:
## lm(formula = y ~ mcx * mcz, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.7236 -0.5484  0.4075  0.5890  1.7128
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.008223   0.102671   0.080    0.936
## mcx          0.116353   0.217850   0.534    0.594
## mcz         -0.029902   0.148482  -0.201    0.841
## mcx:mcz     -0.370681   0.309970  -1.196    0.233
##
## Residual standard error: 1.004 on 180 degrees of freedom
## Multiple R-squared:  0.009049,   Adjusted R-squared:  -0.007467
## F-statistic: 0.5479 on 3 and 180 DF,  p-value: 0.6502
```

```r
#remove legend by replacing plotLegend with legendArgs="none"

#Negative Affect
fit1 <- lm(NEGATIVEAFFECT_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit1)

##
## Call:
## lm(formula = NEGATIVEAFFECT_z ~ zClass + CONDITION + zClass *
##     CONDITION, data = d1)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.57051 -0.67838 -0.09377  0.90696  2.98068
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)       0.03024    0.10071   0.300   0.7643
## zClass           -0.58850    0.21370  -2.754   0.0065 **
## CONDITION        -0.04973    0.14647  -0.340   0.7346
## zClass:CONDITION  0.35498    0.30869   1.150   0.2517
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9846 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.04666,    Adjusted R-squared:  0.03059
## F-statistic: 2.904 on 3 and 178 DF,  p-value: 0.03625

plotSlopes(fit1, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Negative
Affect")
```




```
#GAZEAVERSION
fit2 <- lm(GAZEAVERSION_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit2)

##
## Call:
## lm(formula = GAZEAVERSION_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.0980 -0.5752 -0.3407  0.2390  6.2413
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      -0.08129    0.10358  -0.785    0.434
## zClass            0.22323    0.22061   1.012    0.313
## CONDITION         0.16528    0.15061   1.097    0.274
## zClass:CONDITION -0.13118    0.32290  -0.406    0.685
##
## Residual standard error: 1.002 on 174 degrees of freedom
##   (6 observations deleted due to missingness)
```

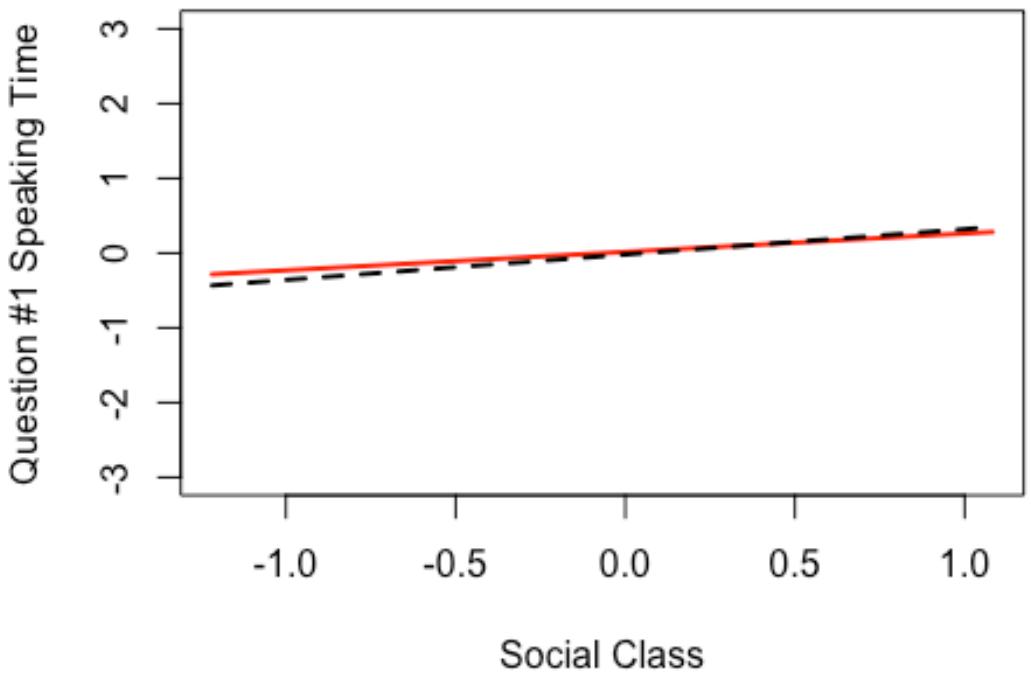
```
## Multiple R-squared:  0.01291,    Adjusted R-squared:  -0.004111
## F-statistic: 0.7585 on 3 and 174 DF,  p-value: 0.5188

plotSlopes(fit2, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Gaze Aver
sion")
```




```
#Q1 Speaking Time
fit3 <- lm(Q1ST_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit3)

##
## Call:
## lm(formula = Q1ST_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.0862 -0.5397 -0.2716  0.1395  7.9167
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
```

```
## (Intercept)       0.01553    0.10212   0.152    0.879
## zClass            0.24624    0.21667   1.136    0.257
## CONDITION        -0.03517    0.14890  -0.236    0.814
## zClass:CONDITION  0.09323    0.31487   0.296    0.768
##
## Residual standard error: 0.9983 on 177 degrees of freedom
##   (3 observations deleted due to missingness)
## Multiple R-squared:  0.01999,    Adjusted R-squared:  0.003379
## F-statistic: 1.203 on 3 and 177 DF,  p-value: 0.31
```

```
plotSlopes(fit3, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Question
#1 Speaking Time")
```

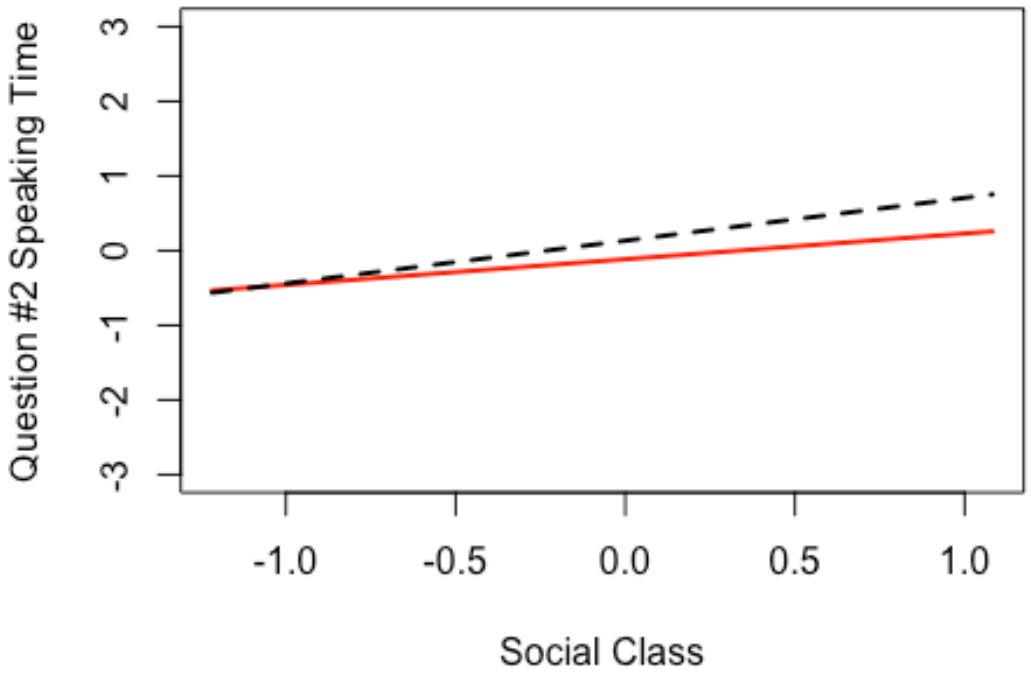



```
#Q2 Speaking Time
fit4 <- lm(Q2ST_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit4)
```

```
##
## Call:
## lm(formula = Q2ST_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
```

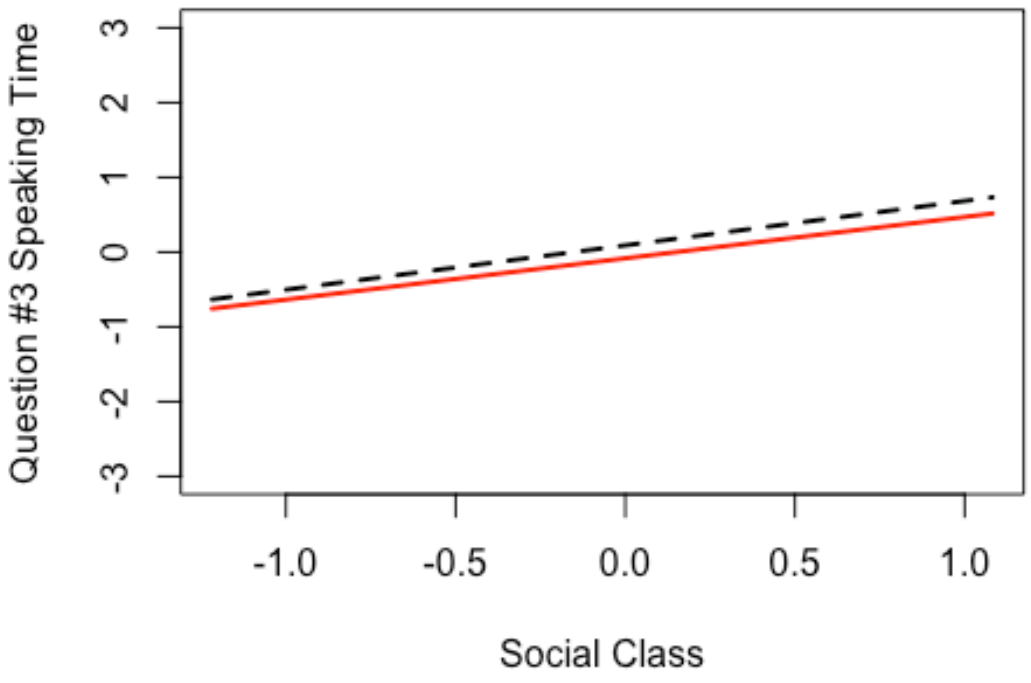
```
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.4387 -0.5912 -0.2843  0.2248  3.9878
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      -0.11570    0.09992  -1.158   0.2484
## zClass            0.34397    0.21201   1.622   0.1065
## CONDITION         0.24842    0.14531   1.710   0.0891 .
## zClass:CONDITION  0.22890    0.30625   0.747   0.4558
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9768 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.06165,    Adjusted R-squared:  0.04583
## F-statistic: 3.898 on 3 and 178 DF,  p-value: 0.009942
```

```
plotSlopes(fit4, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Question
#2 Speaking Time")
```




```
#Q3 Speaking Time
fit5 <- lm(Q3ST_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit5)

##
## Call:
## lm(formula = Q3ST_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.8049 -0.6399 -0.1626  0.3936  4.3658
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      -0.08343    0.09900  -0.843  0.40051
## zClass            0.55307    0.21006   2.633  0.00921 **
## CONDITION         0.17337    0.14397   1.204  0.23013
## zClass:CONDITION  0.04067    0.30344   0.134  0.89354
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9678 on 178 degrees of freedom
```

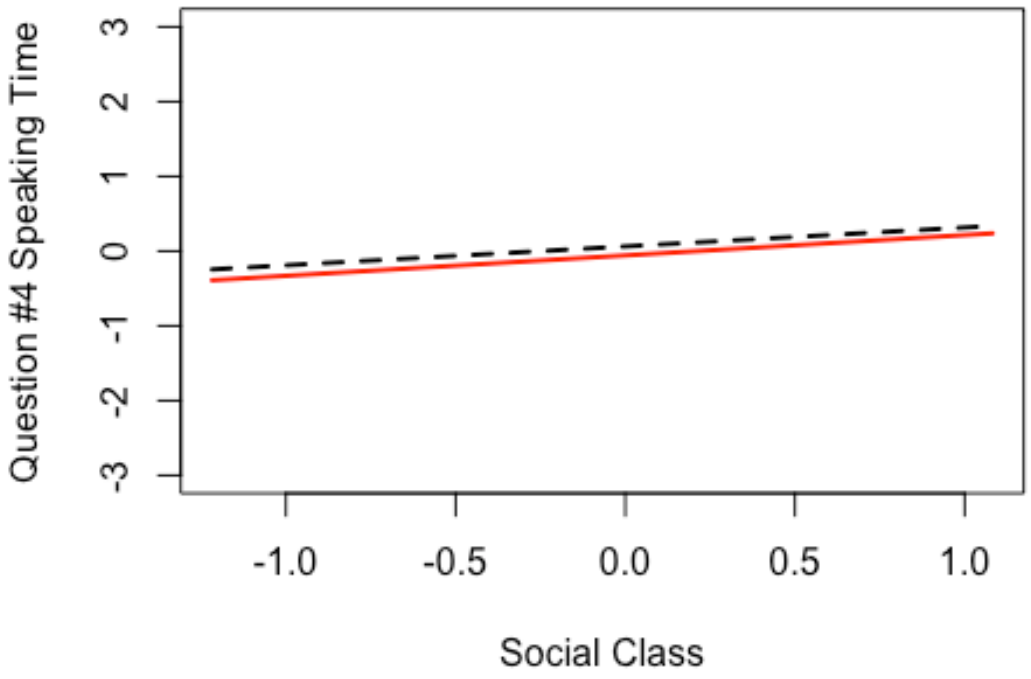
```
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.07882,    Adjusted R-squared:  0.0633
## F-statistic: 5.077 on 3 and 178 DF,  p-value: 0.002137

plotSlopes(fit5, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Question
#3 Speaking Time")
```




```
#Q4 Speaking Time
fit6 <- lm(Q4ST_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit6)

##
## Call:
## lm(formula = Q4ST_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.2321 -0.5312 -0.2204  0.2184  7.8741
##
## Coefficients:
```

```
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      -0.05837    0.10219  -0.571    0.569
## zClass            0.27267    0.21684   1.257    0.210
## CONDITION         0.12087    0.14862   0.813    0.417
## zClass:CONDITION -0.01987    0.31323  -0.063    0.949
##
## Residual standard error: 0.9991 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.0184, Adjusted R-squared:  0.001858
## F-statistic: 1.112 on 3 and 178 DF,  p-value: 0.3455
```

```
plotSlopes(fit6, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Question
#4 Speaking Time")
```

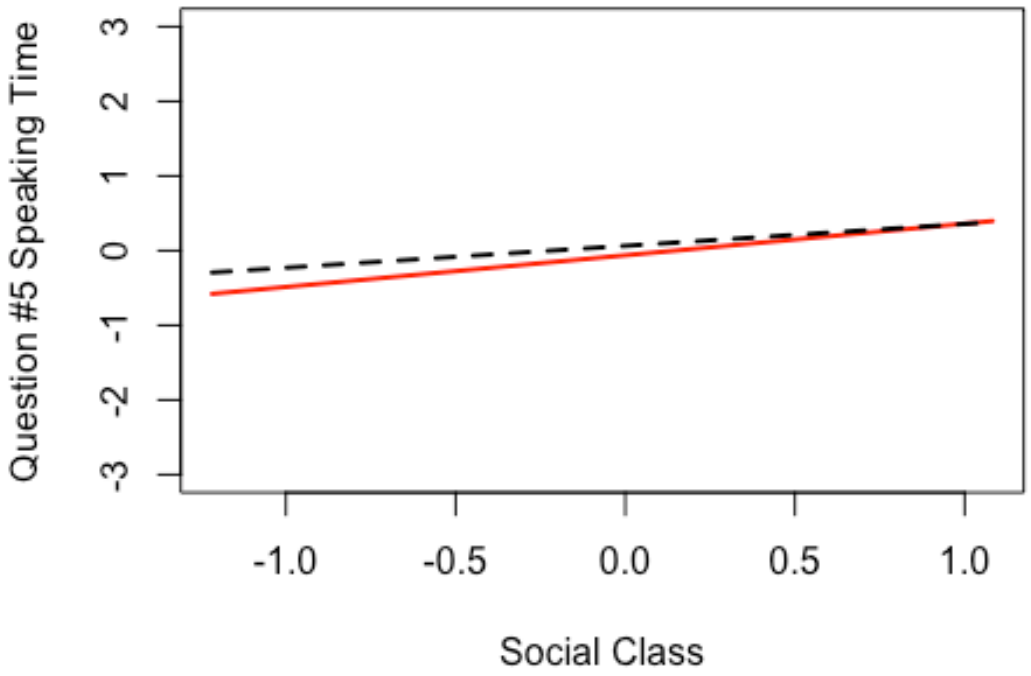



```
#Q5 Speaking Time
fit7 <- lm(Q5ST_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit7)
```

```
##
## Call:
## lm(formula = Q5ST_z ~ zClass + CONDITION + zClass * CONDITION,
```

```
##     data = d1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.3650 -0.7082 -0.2258  0.3690  3.9224
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      -0.06313    0.10142  -0.622   0.5345
## zClass            0.42397    0.21520   1.970   0.0504 .
## CONDITION         0.12673    0.14750   0.859   0.3914
## zClass:CONDITION -0.13070    0.31087  -0.420   0.6747
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9915 on 178 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.03315,    Adjusted R-squared:  0.01685
## F-statistic: 2.034 on 3 and 178 DF,  p-value: 0.1108
```

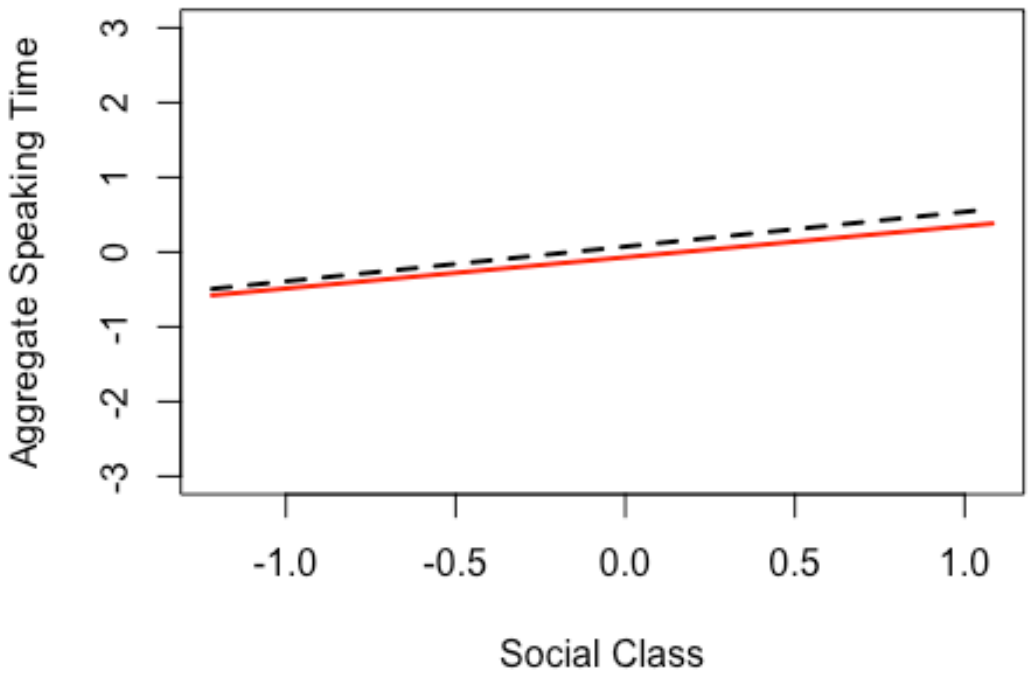
```
plotSlopes(fit7, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Question
#5 Speaking Time")
```




```
#Aggregate Speaking Time
fit8 <- lm(STTotal_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit8)

##
## Call:
## lm(formula = STTotal_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.5675 -0.5905 -0.2355  0.3721  6.0618
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      -0.07003    0.10069  -0.695   0.4877
## zClass            0.41750    0.21365   1.954   0.0523 .
## CONDITION         0.14338    0.14683   0.977   0.3301
## zClass:CONDITION  0.04749    0.31047   0.153   0.8786
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9844 on 177 degrees of freedom
```

```
##   (3 observations deleted due to missingness)
## Multiple R-squared:  0.04717,    Adjusted R-squared:  0.03102
## F-statistic: 2.921 on 3 and 177 DF,  p-value: 0.03549
```

```
p <- plotSlopes(fit8, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Aggregate
Speaking Time")
```

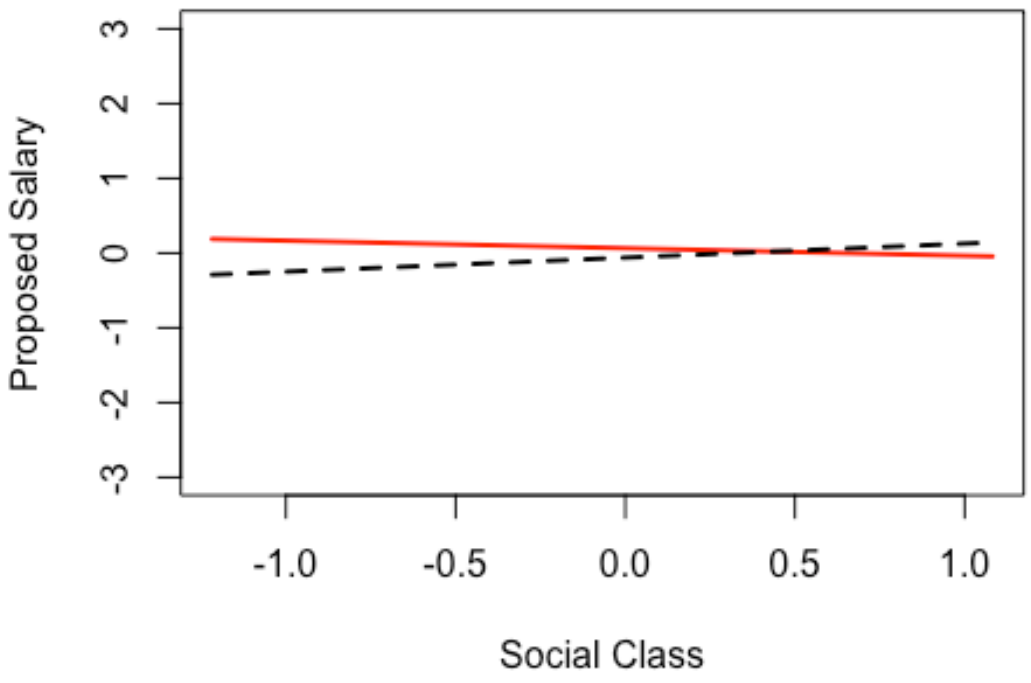



```
#Proposed Salary
fit9 <- lm(PRO.SALARY_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit9)
```

```
##
## Call:
## lm(formula = PRO.SALARY_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.44934  0.03516  0.37929  0.54186  1.00133
##
## Coefficients:
```

```
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)        0.0651     0.1027   0.634    0.527
## zClass            -0.1011     0.2178  -0.464    0.643
## CONDITION         -0.1262     0.1485  -0.850    0.396
## zClass:CONDITION   0.2887     0.3099   0.932    0.353
##
## Residual standard error: 1.004 on 180 degrees of freedom
## Multiple R-squared:  0.009378,   Adjusted R-squared:  -0.007132
## F-statistic: 0.568 on 3 and 180 DF,  p-value: 0.6368
```

```
p <- plotSlopes(fit9, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Proposed
Salary")
```

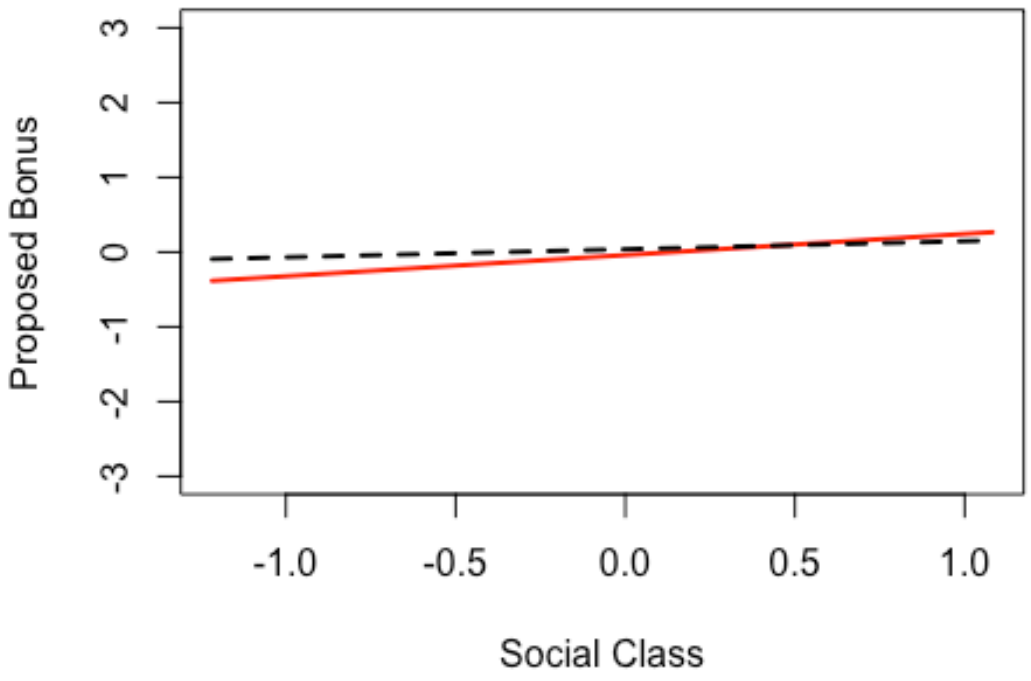



```
#Proposed Bonus
fit10 <- lm(PRO.BONUS_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit10)
```

```
##
## Call:
## lm(formula = PRO.BONUS_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
```

```
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.91129 -0.60535  0.01145  1.00610  1.41136
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      -0.04025    0.10253  -0.393    0.695
## zClass            0.28289    0.21756   1.300    0.195
## CONDITION         0.07815    0.14829   0.527    0.599
## zClass:CONDITION -0.17529    0.30956  -0.566    0.572
##
## Residual standard error: 1.002 on 180 degrees of freedom
## Multiple R-squared:  0.01167,    Adjusted R-squared:  -0.004799
## F-statistic: 0.7086 on 3 and 180 DF,  p-value: 0.548
```

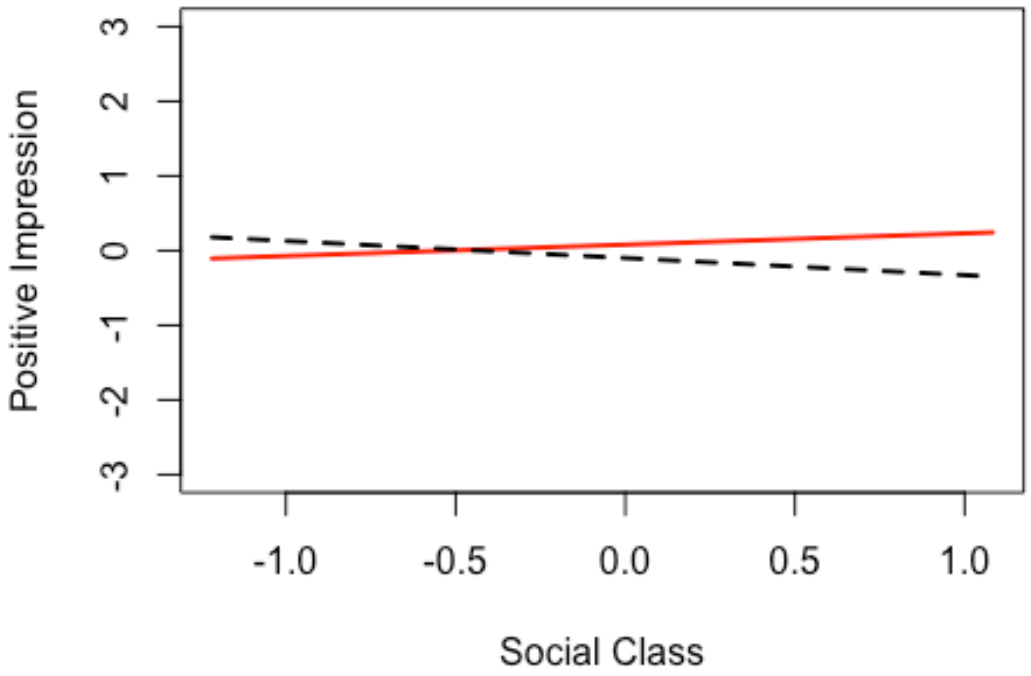
```
p <- plotSlopes(fit10, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Proposed
Bonus")
```



```r
#Positive Impression
fit11 <- lm(POS.IMPR_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit11)
```

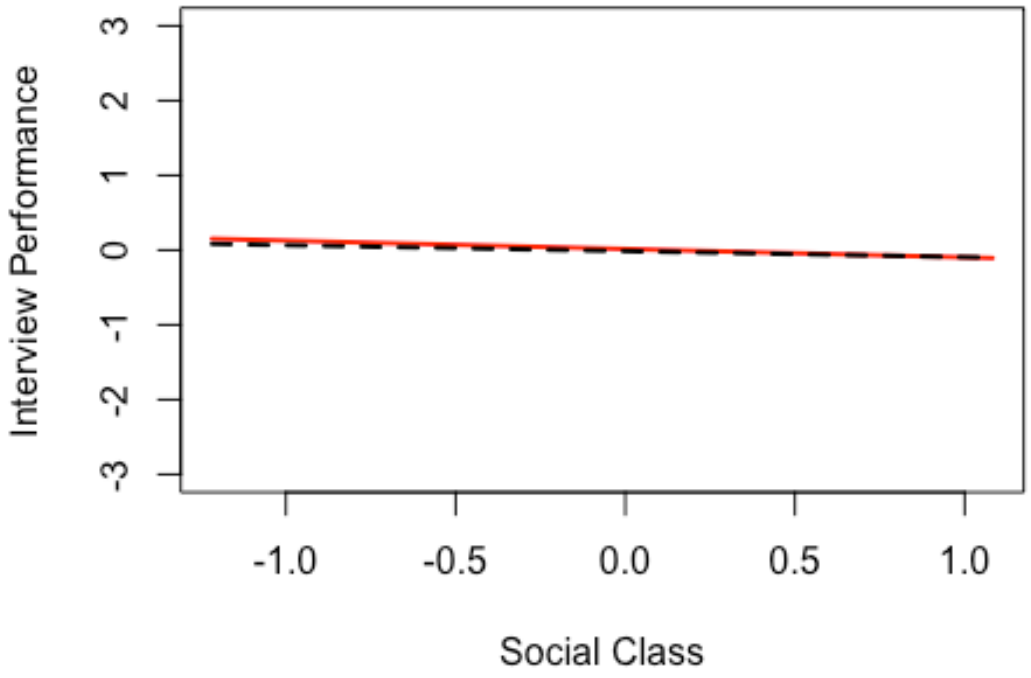
```
##
## Call:
## lm(formula = POS.IMPR_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.11900 -0.77921  0.06978  1.01383  1.37064
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)        0.07938    0.10229   0.776    0.439
## zClass             0.15162    0.21704   0.699    0.486
## CONDITION         -0.17902    0.14793  -1.210    0.228
## zClass:CONDITION -0.38054    0.30882  -1.232    0.219
##
## Residual standard error: 1 on 180 degrees of freedom
## Multiple R-squared:  0.01637,    Adjusted R-squared:  -2.813e-05
## F-statistic: 0.9983 on 3 and 180 DF,  p-value: 0.395
```

```r
p <- plotSlopes(fit11, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArg = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Positive
Impression")
```




```
#INTERVIEW PERFORMANCE
fit12 <- lm(INT.PERF_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit12)

##
## Call:
## lm(formula = INT.PERF_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -2.1371 -0.9160  0.1361  1.1358  1.2643
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)       0.01429    0.10302   0.139    0.890
## zClass           -0.11210    0.21859  -0.513    0.609
## CONDITION        -0.02878    0.14899  -0.193    0.847
## zClass:CONDITION  0.03229    0.31102   0.104    0.917
##
## Residual standard error: 1.007 on 180 degrees of freedom
## Multiple R-squared:  0.002306,   Adjusted R-squared:  -0.01432
## F-statistic: 0.1387 on 3 and 180 DF,  p-value: 0.9368
```

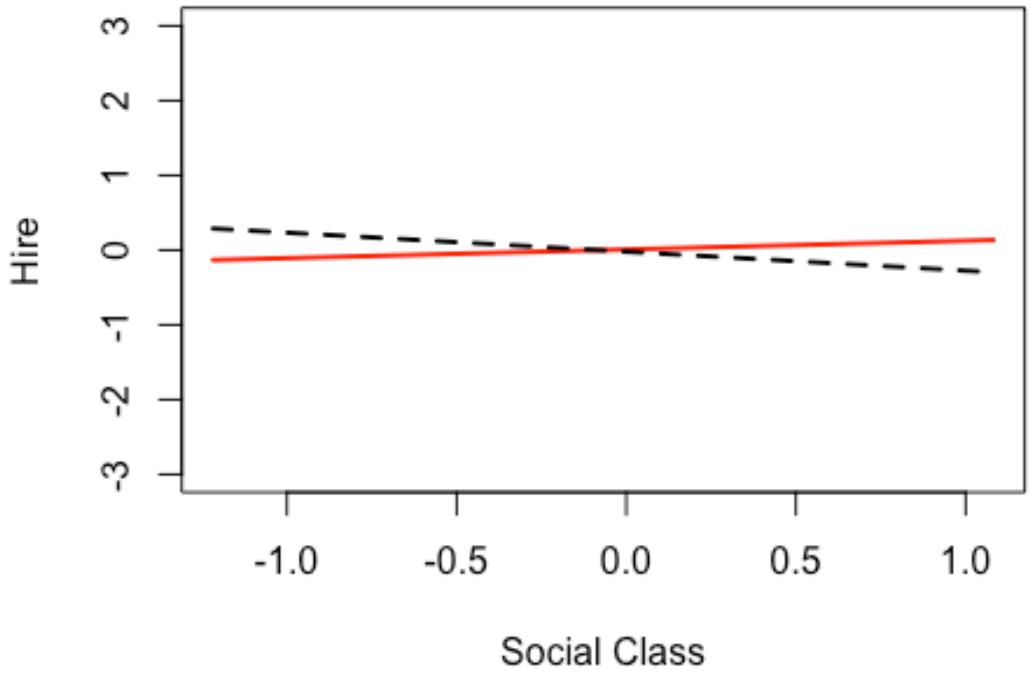
```
p <- plotSlopes(fit12, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Interview
Performance")
```




```
#HIRE
fit13 <- lm(HIRE_z ~ zClass+CONDITION+zClass*CONDITION, data=d1)
summary(fit13)

##
## Call:
## lm(formula = HIRE_z ~ zClass + CONDITION + zClass * CONDITION,
##     data = d1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.7236 -0.5484  0.4075  0.5890  1.7128
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)       0.008223   0.102671   0.080    0.936
## zClass            0.116353   0.217850   0.534    0.594
```

```
## CONDITION        -0.029902   0.148482  -0.201    0.841
## zClass:CONDITION -0.370681   0.309970  -1.196    0.233
##
## Residual standard error: 1.004 on 180 degrees of freedom
## Multiple R-squared:  0.009049,   Adjusted R-squared:  -0.007467
## F-statistic: 0.5479 on 3 and 180 DF,  p-value: 0.6502
```

```
p <- plotSlopes(fit13, plotx = "zClass", modx = "CONDITION",
    modxVals="std.dev.", plotPoints = FALSE, legendArgs = "none", legendPct =
FALSE,
    col=c("red", "black"), ylim=c(-3,3), xlab="Social Class", ylab="Hire")
```




```
```