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People compare themselves to others in order to evaluate their abilities and opinions, yet the literature is mixed on how these social comparisons impact people's emotions, self-evaluation, and motivation. There were two primary aims of the present study. The first aim was to examine the impact of upward social comparisons (i.e., comparing oneself to someone who is believed to be more skilled or more fortunate) on self-evaluation and motivation. The second aim was to examine the influence of dysphoria in the relation between social comparison and both self-evaluation and motivation after partialling out the effects of self-esteem. Undergraduate students varying in levels of dysphoria were asked to read either an impressive student resume (upward comparison) or an average student resume (lateral comparison) prior to answering other- and self-evaluation questions and performing a brief anagram task to assess motivation. We predicted that after partialling out the effects of self-esteem, people who report higher dysphoria will evaluate themselves more negatively following an upward (but not a lateral) comparison than people who report lower dysphoria. We also predicted that after partialling out the effects of self-esteem, people who report higher dysphoria will display less motivation, as evidenced by correctly solving fewer anagrams, following an upward (but not a lateral) comparison than people who report lower dysphoria will. Results did not show a significant interactive effect of dysphoria on either the relation between social comparison and self-evaluation or the relation

between social comparison and motivation. However, results did indicate a main effect

of self-esteem ($\beta = .71$, $p < .001$) and comparison ($\beta = -.13$, $p < .05$) on self-evaluation.

INSPIRATION OR DEFEAT: THE MOTIVATIONAL AND EVALUATIVE IMPACT

OF SOCIAL COMPARISON ON DYSPHORIC INDIVIDUALS

by

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CHAPTER I

INTRODUCTION

People regularly compare themselves to others when they are unsure about their

abilities or opinions. Learning that one's abilities are worse than those of another can be

a negative and defeating experience, or a positive and inspiring one. Research does in

fact indicate that upward social comparisons can be associated with either negative or

positive self-evaluations (Tesser, Millar & Moore, 1988; Buunk, Collins, Taylor,

VanYperen & Dakof, 1990; Brewer & Weber, 1994; Collins, 1996; Lockwood & Kunda,

1997; Mussweiler, Rüter & Epstude, 2004) and associated with either an increase in

motivation and subsequent performance or a decrease in motivation and subsequent

performance (Lockwood & Kunda, 1997; Van Yperen, Brenninkmeijer & Buunk, 2006).

But what is behind these inconsistencies? The current study aims to help clarify the

mixed social comparison literature by examining the influence of dysphoria (presence of

depressive symptoms that may or may not be clinically significant) on the relations

between social comparison, self-evaluation, and motivation.

Social Comparison and Self-Evaluation

We know that people use social comparisons to evaluate their abilities and

opinions. However, as briefly mentioned above, inconsistencies exist in the directional

impact of social comparison on self-evaluation. Potentially contributing to these

inconsistencies, researchers have suggested that the impact of social comparison on self-

evaluation depends on various factors: perceived psychological closeness of the comparison other, attainability of the other's performance, relevance of the performance to the perceiver, and how the context of the comparison is processed to fit one's self-construal (Tesser, et al., 1988; Brewer & Weber, 1994; Collins 1996; Mussweiler et al., 2004; Markman & McMullen, 2003).

As a part of their self-evaluation maintenance model (SEM), Tesser and colleagues (1988) suggested that the extent to which a comparison other impacts a perceiver depends on the other's psychological closeness to that perceiver and the other's performance on a relevant domain. In this model, psychological closeness refers to the extent to which the comparison other is similar to the perceiver in characteristics such as age, proximity, and ethnicity. Additionally, as a part of this model, domain relevance refers to the extent to which the domain is important to the perceiver's self-concept. SEM suggests that, following an upward social comparison, one will experience more positive self-evaluations the closer one is to the comparison other (greater psychological closeness) and the better the other's performance is on an *irrelevant* domain. In this situation, the *irrelevant* domain will not be as important to the perceiver's self-concept, and as such the comparison will enhance self-evaluation by providing the perceiver with the opportunity to bask in the close other's better performance. Conversely, Tesser and colleagues (1988) suggested that one will experience more negative self-evaluation the closer one is to the comparison other and the better the other's performance is on a *relevant* domain. In this situation, the *relevant* domain will be more important to the

perceiver's self-concept, and as such the comparison will diminish self-evaluation by highlighting the perceiver's shortcomings.

Since the development of SEM, research in the social comparison literature has continued to examine these and other potential factors that may moderate the effects of self-evaluation. Brewer and Weber (1994) examined the effect of majority in-group and minority in-group comparison. In this study, *majority* refers to being a part of a larger social category with less psychological closeness, and *minority* refers to being a part of a smaller social category with greater psychological closeness. The study found that people in the minority in-group comparison reported more positive self-evaluations following an upward social comparison than people in the majority in-group. However, in this study, the relevance of the task was not explicitly studied, so possible interactions with domain relevance were not explored.

Across multiple studies, researchers Lockwood and Kunda (1997) have argued that domain relevance only further adds to the similarity between the individual and the comparison other, making it more likely that the comparison will impact the individual. Moreover, they suggest that it is the perceived attainability of the comparison other's performance that has consequences on an individual's self-evaluation. For example, Lockwood and Kunda (1997) asked undergraduate freshman and senior participants to read either an attainable social comparison (an article about a successful, yet older student) or an unattainable upward social comparison (an article about a successful, yet younger student) and then report on their subsequent self-evaluation and motivation. The results of this study showed that the freshman participants, for whom the comparison

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other's performance appeared attainable, were associated with more positive self-evaluation ratings. Conversely, the results suggested that the senior participants, for whom the comparison other's performance appeared unattainable, were associated with more negative self-evaluation ratings.

Taking a slightly different view on similarity, Markman and McMullen (2003) have proposed the reflection and evaluation model (REM). In this model Markman and McMullen highlight the importance of cognitive factors in determining social comparison consequences. Specifically, the model suggests that comparative thinking influences self-evaluation through one of two modes: reflection or evaluation. Unlike the SEM, the REM describes reflection as the "experiential ('as if') mode of thinking," in which individuals view information about the comparison other as "true of, or part of, the self" (Markman & McMullen, 2003, p. 2). Through this process, affect is influenced by the valance of the thoughts about the comparison other that implicate one's self instead of the basic association with the comparison other. For example, instead of basking in a friend's basketball skills (upward comparison), the REM would suggest that through a reflective process, individuals will actually imagine themselves as having similar abilities, assimilating to the comparison other and thereby increasing positive affect. Furthermore, the REM explains evaluation as an "evaluative mode of thinking," in which individuals use information about the comparison as a "reference point to evaluate one's present standing" (Markman & McMullen, 2003, p. 2). In contrast to reflection, the REM suggests that evaluation leads to contrast effects. Take the basketball example – instead of seeing oneself as similar (in terms of abilities) to the comparison other, an individual

using evaluative processes is more likely to contrast their current abilities against their friend's superior basketball skills, decreasing positive affect.

Lending support for the reflection and evaluation model, research on upward social comparisons has found that when people focus on the similarities between themselves and the comparison other, they are more likely to see the other as comparable and experience positive self-evaluation. However, when people focus on the differences between themselves and the comparison other, they are more likely to find themselves dissimilar from the other and experience negative self-evaluations (Collins, 1996; Mussweiler et al., 2004).

In an attempt to address the directional inconsistencies seen in the social comparison literature, it may be useful to examine individual differences. One common thread throughout the discussed literature is the perceiver's interpretation of the comparison other, suggesting that research may benefit from examining individual differences in cognition. As discussed in detail later, negative cognitive biases are characteristics of depression – and likewise dysphoria – providing support for examining the impact of dysphoria in the relation between social comparison and self-evaluation.

Social Comparison and Motivation

In addition to self-evaluation, recent research has attempted to explain why, under certain circumstances, upward social comparisons can lead to inspiration (i.e., an increase in motivation), whereas in other circumstances, upward comparisons can lead to feelings of defeat (i.e., a decrease in motivation) (Lockwood & Kunda, 1997; Lockwood & Kunda, 1999). Researchers have suggested that the perceived attainability of the

comparison other's success will impact an individual's motivation (Seta, 1982; Lockwood & Kunda, 1997; Lockwood & Kunda, 1999; Dijksterhuis, et al., 1998; Van Yperen, et al., 2006). For example, Seta (1982) found that people are more likely to be motivated by and perform better when given a slightly superior comparison than an inferior, equal or very superior comparison. Lockwood and Kunda (1997) also examined the effects of attainable upward social comparisons on subsequent motivation. Results of this study indicated that when the comparison other's performance was perceived as attainable (successful yet older student), participants were more likely to report greater motivation because they believed that comparable success was possible. In this situation, the comparison other is illustrating accomplishments the perceiver can hope to accomplish; it serves as a motivator for future success (Lockwood & Kunda, 1997). Conversely, when participants found the comparison other to be unattainable (successful yet younger student), they were more likely to report lower motivation. In effect, the comparison other's success highlighted the perceiver's flaws and shortcomings.

Lockwood and Kunda (1999) conducted a series of studies in an attempt to determine whether reflecting on one's best "past" or hoped-for "future" self would impact one's ability to interpret an upward comparison as attainable and thereby decrease motivation. In one these studies, Lockwood and Kunda randomly assigned participants to a best selves condition (i.e. asked to report on their best past self or imagine their best future self) or a normal selves condition (i.e. asked to describe a recent activity they were involved in). Following this, participants read an article about an outstanding graduate student (upward social comparison condition) or about a local event (no social

comparison condition) and were asked to report on their self-evaluation and motivation to complete a number of academic and extracurricular tasks. All studies found that participants who were in the upward social comparison condition and were asked to reflect on their best selves (both past and future) were more likely to experience a decrease in both self-evaluation and motivation than participants who were asked to reflect on their current selves. Based off of these findings, Lockwood and Kunda explained that reflecting on our best self decreases motivation because it limits our ability to generate beliefs about our ideal self that the upward comparison other would normally inspire. In effect, reflecting on our best self inhibits our ability to see the comparison other's success as attainable.

In contrast, the REM suggests that when given an upward comparison, motivation for achievement tasks increases when the comparison causes the individual to experience negative self-evaluations (Markman & McMullen, 2003). More specifically, when an upward social comparison causes individuals to evaluate their own abilities, the REM suggests that they will experience negative self-evaluations but that the comparison will also highlight ways in which the individuals' reality can be improved. The realization that other actions can be taken in the future in order to bring the individual closer to the desired state should therefore increase motivation (Markman & McMullen, 2003). However, the reverse is true when the upward comparison causes an individual to reflect on the other's abilities as being "true of, or part of, the self" (Markman & McMullen, 2003, p. 2). In this situation, the REM suggests that when interpreting an upward social

comparison through a reflective process, an individual will experience positive self-evaluations and will therefore experience less motivation on achievement based tasks.

As discussed, past research shows mixed findings on the impact of upward social comparisons on motivation. However little research has examined the influence of individual differences, such as dysphoria, when providing explanations for the discrepancies. It is possible that following an upward social comparison, people high in dysphoria will find the comparison other as unattainable, experience negative self-evaluations and decreased motivation whereas people low in dysphoria will find the same comparison other as attainable, experience positive self-evaluation and increased motivation.

Social Comparison and Depression

Throughout many of the well-established theories of depression, social comparison processes have been implicated in the maintenance and etiology of depression but are rarely discussed explicitly. For example, according to Beck's cognitive theory, people with depression tend to exhibit a negativity bias characterized by the presence of a negative schema and a greater number of negative automatic thoughts (Beck, 1967; Beck, Rush, Shaw & Emery, 1979). Negative schemas are thought to involve stable, negative beliefs about the self that are used to interpret and process information from the environment. For example, an individual with depression may attribute not getting a job promotion to being worthless instead of attributing the event to someone else being slightly more qualified. Supporting this theory, numerous studies have shown that depressed individuals, as well as those at risk for depression, have more

negative automatic thoughts and beliefs about themselves compared to healthy controls (Eaves & Rush, 1984; Ingram, Atkinson, Slater, Saccuzzo, & Garfin, 1990; Simmons, Cooper, Drinkwater & Stewart, 2006; Dozois, 2007).

In addition to Beck's cognitive theory, the reformulated learned helplessness model further highlights the role of social comparison processes in the maintenance and etiology of depression (Abramson, Seligman & Teasdale, 1978). Specifically, one assumption of this model is that the various symptoms (cognitive, motivational and affective) of depression can stem from an individuals' beliefs that important outcomes are more contingent on the responses of relevant others' than themselves; that others have more control. For example, consider a graduate student who has attended every class, has studied for hours, and gone to office hours for tutoring yet is unable to produce a passing grade. Based on the reformulated learned helplessness model, if this graduate student is depressed, she is likely to believe she must be stupid, since nothing she does seems to improve her grade while others in the class are able to pass. This belief that other students have more control over their grade can lower the student's own self-evaluation and motivation, contributing to a negative self-concept.

Considering these theories, researchers have suggested that the negativity bias common to depression may be associated with negative self-evaluations, potentially explaining why individuals with depression tend to display a greater number of negative self-evaluations (Ahrens, 1987; Karoly & Ruehlman, 1983). More specifically, it has been suggested that in comparison to nondepressed individuals, depressed individuals tend to view themselves as different from the comparison other and attend more to

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negative information about themselves than to positive information about others, maintaining their depression (Ahrens, 1987; Swallow & Kuiper, 1987; Swallow & Kuiper, 1988; Ahrens, 1991; Swallow & Kuiper, 1993; Tabachnik, Crocker & Alloy, 1983; Bäzner, Brömer, Hammelstein & Meyer, 2006). Moreover, as suggested by Swallow and Kuiper (1988) the stable, negative cognitive patterns characteristic of depression may lead individuals with depression to interpret social comparisons more negatively, increasing the likelihood of negative self-evaluations.

Providing some evidence for this concept of cognitive deficits, previous studies have examined the impact of self-esteem on social comparison consequences. This is of particular relevance because, similar to low self-esteem, higher levels of depression – and likewise dysphoria – are associated with negative cognitive biases about the self (Beck, 1967; Sowislo & Orth, 2013). Specifically, one study by Seta and colleagues (2006) examined individual differences in self-esteem and found that high self-esteem participants tended to experience more positive self-evaluation following an upward social comparison than low self-esteem participants. Based on these results, Seta and colleagues explain that when given an upward social comparison, individuals with high self-esteem are better able to recognize their own positive attributes, whereas individuals with low self-esteem tend to experience cognitive biases and are less able to recognize their own positive attributes. However, unlike self-esteem, higher levels of depression – and likewise dysphoria – are also associated with a sense of helplessness and negative cognitive biases about others and the world. This difference may potentially magnify

findings by Seta and colleagues, providing further explanation for the directional

inconsistencies seen in the social comparison literature regarding self-evaluation.

Furthermore, the negative cognitive bias commonly present in people with depression

— and likewise, people with dysphoria — are also suggested to be associated with

motivational deficits (Karoly & Ruehlman, 1983; Brinkmann & Gendolla, 2007;

Brinkmann & Gendolla, 2008). To measure motivation, researchers have examined the

mobilization of effort to complete a task necessary for goal attainment (Gendolla &

Richter, 2010). One of the more reliable methods of measuring motivation through effort

mobilization is to examine cardiovascular reactivity during task performance. In their

review, Gendolla and Richter (2010) explained that an increase in cardiovascular

reactivity is associated with increased motivation. Brinkmann and Gendolla (2007)

measured performance-related cardiovascular reactivity in both dysphoric and

nondysphoric participants while working on a memory task. The results showed that

compared to nondysphoric participants, dysphoric participants were more likely to show

a decrease in cardiovascular reactivity during task performance. This suggests that

people with dysphoria experience lower motivation to perform than nondysphoric people.

Furthering this research, Brinkmann and Gendolla (2008) found that as compared to

nondysphoric individuals, the negative mood that characterizes dysphoria is detrimental

to performance motivation, especially when given a difficult task.

Generally speaking, research has also found that people with depression are not only

more sensitive and attentive to social comparison information, but they are also more

likely to engage in comparisons that will lead to negative outcomes (Beck et al., 1979;

Swallow & Kuiper, 1988; Swallow & Kuiper, 1993; Ahrens, 1991; Bäzner, et al., 2006). For example, Bazner and colleagues found that higher scores on a depression measure were positively correlated with social comparison frequency. Additionally, in a study conducted by Ahrens (1991), depressed individuals provided with mixed information (i.e. both an upward and downward social comparison) were more likely to attend to the upward comparison and report negative self-evaluation whereas nondepressed individuals were more likely to attend to the downward comparison and report positive self-evaluations.

Gaps exist within the social comparison literature. Although social comparisons affect self-evaluation and motivation, the direction of this impact is not as straightforward as one would assume. Research is beginning to address the influence of individual differences such as self-esteem in explaining the directional inconsistencies. However, continued research would benefit from examining the influence of other individual characteristics such as depression on social comparison consequences. This is especially true when investigating the effect of social comparison on self-evaluation and motivation, as both are characteristic of depression and may provide a more comprehensive explanation for these inconsistencies. Gaining a better understanding of these processes may also provide insight into the maintenance of depression.

Goals and Hypotheses

Previous research by Seta and colleagues has found that individual differences in self-esteem moderate the relation between type of comparison and self-evaluation. This research suggests that it is important to examine the effect of additional individual

differences. Expanding on this literature, the goal of the present study is to examine how dysphoria impacts the effect of upward social comparisons on self-evaluation and motivation. Similar to self-esteem, cognitive theories of depression suggest that individuals with depression are more likely to negatively interpret information from their environment (Beck et al., 1979). In fact, social comparison research has suggested that when engaged in an upward social comparison, individuals with depression are more likely to focus on how the comparison other is better than them whereas individuals without depression are more likely to focus on their similarities with the other (Swallow & Kuiper, 1993). However, unlike self-esteem, depression can also be characterized by feelings of hopelessness, negative cognitive biases about other and the world, and motivational deficits. Thus, it is predicted that people who report higher dysphoria will experience more negative self-evaluations following an upward (but not a lateral) comparison than people who report lower dysphoria. It is also predicted that people who report higher dysphoria will display less task motivation following an upward (but not a lateral) comparison than people who report lower dysphoria. To summarize, the hypotheses are as followed:

1. People with higher dysphoria will report more negative self-evaluations following an upward social comparison even after partialling out the effects of self-esteem.

2. Level of dysphoria will not significantly impact self-evaluation following a lateral comparison even after partialling out the effects of self-esteem.

3. People with higher dysphoria will exhibit less motivation following an upward

social comparison even after partialling out the effects of self-esteem.

4. Level of dysphoria will not significantly impact motivation following a lateral

comparison even after partialling out the effects of self-esteem.

CHAPTER II

METHODS

Participants

186 undergraduate students (19.8 mean age in years, 70.4 percent female) were

recruited from General Psychology courses at the University of North Carolina at

Greensboro (UNCG) and who took part in the spring and fall 2012 mass screening

session. Participants received course credit for participating in the present study.

Materials

Self-Esteem Measure. To assess self-esteem, participants were asked to complete

the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The scale contains 10 questions in

which people are asked to report on their general feelings about themselves. Some

examples of questions on the scale are: "On the whole, I am satisfied with myself" and "I

wish I could have more respect for myself." Items were summed to obtain a final score

with higher totals indicating higher self-esteem (Cronbach's α = .88).

Dysphoria Measure. As a part of this study, students were asked to fill out the

Center for Epidemiologic Studies Depression Scale during mass screening as well as

within the laboratory setting (CES-D: Radloff, 1977). Scores from the laboratory setting

were used in result analysis. The CES-D contains 20 questions in which people are asked

to indicate how they have felt or behaved in the past week, based on a 4 point scale

(1=*rarely or none of the time*, 2=*some or a little of the time*, 3=*occasionally or a*

moderate amount of time, 4=*most or all of the time*). Some examples of questions on the

scale are: "I was bothered by things that usually don't bother me" and "I felt that

everything I did was an effort." The purpose of this scale is to measure the level of

depressive symptoms an individual is experiencing. Items were summed to obtain a total

score. Scores on the CES-D range from 0 to 60 with scores between 16 and 26 indicating

the presence of mild depressive symptoms and scores above 27 suggesting the presence

of more severe depressive symptoms (Santor, Zuroff, Ramsay, Cervantes & Palacios,

1995; Bonomi, Kernic, Anderson, Cannon & Slesnick, 2008). Since participants are not

being clinically evaluated, a diagnosis of depression cannot be given and instead, the

term "dysphoria" will be used. Internal consistency of the CES-D was high (Cronbach's

$\alpha = .91$).

  Social Comparison Others. The reviewed literature suggests that an effective

social comparison is one in which the other is psychologically close, that their

performance is on a relevant domain and that it is perceived as attainable. Although we

are not specifically examining all of these constructs, they are important to include in an

attempt to maximize the chances of a meaningful social comparison. Therefore, the

social comparison manipulation was developed based on these guidelines.

  Fabricated social comparison others have been widely used in the social

comparison literature in order to induce effects in a laboratory setting (Lockwood &

Kunda, 1997; Lockwood & Kunda 1999). In our study, to manipulate social comparison

information, participants were randomly assigned to a relevant, upward comparison

group, or a lateral, average comparison group. Prior to data collection, the social

comparison resumes were piloted on a group of 40 undergraduate students enrolled in one section of General Psychology at the University of North Carolina at Greensboro. Results indicated that the impressive student resume accurately represented an upward comparison (see Appendix A). However, the average student resume seemed to be perceived as slightly more downward than lateral. Based on these findings, minor changes were made to the lateral comparison.

In the relevant, upward comparison group, participants were asked to evaluate the resume of a successful senior at UNCG. In this resume, success was defined as being in the top 5% of their class (based on GPA score), being the recipient of academic awards, being actively involved in the community, and holding prestigious jobs. Participants in the lateral group were asked to evaluate the resume of an average senior at UNCG. In this resume, average was defined as being in the middle of their class, being somewhat involved in the community, and having had some job experience.

Other-Evaluation Measure. In order to check that the social comparison resumes were accurately reflecting a student that is superior and a student that is average, participants were asked to rate six statements on a 11 point scale (-5 = *not at all*, 5 = *very*): "How successful to do think this student is at UNCG," "How impressive is this student's resume," "How attainable is this student's success?" "How accomplished do you think this student is?" "How qualified do you think this student is for the position?" and "Would you recommend that we hire this student?" Items were averaged to create a composite score in which higher scores indicate a more favorable report of the comparison other (Cronbach's α = .89).

Self-Evaluation Measure. To assess whether the social comparison manipulations produced differing effects on self-evaluation, participants were asked to rate four statements on a 11 point scale (-5 = *not at all*, 5 = *very*): "How successful do you think you are?" "How satisfied are you by your own success?" and "How qualified for the position do you think you will be by your Senior year?" These four items were average to create a composite score in which higher scores indicate higher self-evaluation (Cronbach's α = .82). To assess the effectiveness of the social comparison of self-evaluation, participants were also be asked three questions based on a 11 point scale (-5 = *much worse,* 0 = *as good,* 5 = *much better*): By your senior year, how do you think your level of accomplishment will compare to the student you are evaluating," "By your senior year, how do you think your level of success will compare to the student you are evaluating?" and "When you are a senior, how do you think your resume will compare to the student you are evaluating?"   These three items were averaged to create a composite score (Cronbach's α = .93). The use of study specific self-evaluation questions has been used in previous research on social comparison and self-evaluation (Buunk et al, 1990; Zell & Alicke 2009a; Zell & Alicke 2009b).

Motivation Task. After reading the resume on the comparison other and completing the questionnaires, motivation was measured by performance on a computer-based anagram task. Previous research on social comparison and motivation has shown anagram tasks to be a successful way to assess motivation by examining task performance (Shah, Higgins, & Friedman, 1998; Shah, & Higgins, 2001; Markman, McMullen & Elizaga, 2006). In this task, participants were asked to rearrange a word,

using all of the letters, to create a new word. For example, participant's will be presented

with the word "when" and have to rearrange the letters to form the word "hewn."

Number of anagrams correctly solved was totaled to create a motivation score in which

greater number solved indicated greater motivation. No time limit was enforced,

however participants were given the option to skip a word if they cannot figure it out, and

the program was designed to keep track of response time for each word (Markman,

McMullen & Elizaga et al., 2006).

　　　Engagement Questions. In order to assess the difficulty of the task and

participant's level of engagement with the task, participants were asked to rate six

questions on a scale from -3 (*not at all*) to 3 (*very much*). Examples of the questions are,

"How difficult was the task?" "How much effort did you put into completing the task?"

and "How well do you believe you did on the task as compared to others?" Correlations

were run to examine the inter-item relationships. Based on these results (shown in Table

1), items 2 through 5 seemed to be more highly correlated with each other than the other

items, and the content of these items seems to suggest that they are assessing different

aspects of *engagement* in the task. Thus, items 2 through 5 were averaged together to

create a composite engagement score (Cronbach's α = .81).

Procedures

Participants who took part in mass screening were eligible to sign up for the study through the online program, Experimetrix. Additionally, in order to over select for dysphoric individuals, students who reported scores of 16 or higher on the CES-D from mass screening were recruited to participate in the study. In total, 206 students were called from the mass screening sample. However, only 21 of these students participated in the laboratory study. Scores of a 16 or higher were recruited as these scores suggest the presence of mild to severe depressive symptoms (Radloff, 1977).

Before beginning the study, participants were randomly assigned to the upward social comparison group or the lateral social comparison group. Before reading about the comparison other, participants completed the Rosenberg Self-Esteem measure to assess current self-esteem and the CES-D to assess current depressive symptoms. Participants were then told that our lab had an undergraduate research assistant opening and that we would like their help evaluating one of the potential students who is a senior at UNCG. While reading the resume, participants were told to keep in mind that we are looking for students that are intelligent, reliable, independent and motivated. Immediately after reading the comparison resume, participants were asked to complete the other- and self-evaluation questionnaires. Following the completion of the questionnaires, the participants were asked to complete the anagram task. In order to increase the relevance of the task, participants were told that the task is highly correlated with intelligence and is a good predictor of future success and a greater chance of obtaining a job in education,

law or medicine. After completion of the anagram task, participants were asked to

complete the engagement questionnaire and were debriefed on the use of deception.

CHAPTER III

RESULTS

Descriptive Statistics

From the original sample of 186 participants, 5 were excluded due to age.

Specifically, participants 26 or older were excluded from the analysis, as the comparison

is unlikely to be as relevant to them as it would be for students 25 and younger. The

resulting 181 participants (M = 19.33 years, 71.7 percent female) were used in the study

analyses.

CES-D scores ranged from 0 to 50 with 25 percent of the population falling

within the mild depressive symptoms range and 9 percent falling within the more severe

depressive symptoms range. In order to determine normality, study variables were

examined for skew. All values were found to be acceptable, between 3 and -3. Thus, it

was determined that all variables are approximately normally distributed and

transformations were not performed. Means, standard deviations and ranges of the study

questionnaires are presented in Table 2a and Table 2b.

Correlation analyses were run to examine the relation between study variables.

Of note, results showed a strong negative correlation between dysphoria and self-esteem

indicating that the more dysphoric a participant felt, the lower their report of self-esteem

($r = -.70$, $p < .01$). There was also a negative correlation between dysphoria and self-

evaluation suggesting that the more dysphoric a participant felt, the lower their self-evaluation (r = -.50, *p* <.01). Furthermore, there was a strong positive correlation between self-esteem and self-evaluation, indicating that higher self-esteem is related to higher levels of self-evaluation (r = .69, *p* < .01). There was also a modest positive correlation between other-evaluation and self-evaluation, suggesting that higher other-evaluation is related to higher self-evaluation (r = .16, *p* < .05). For additional correlation results, see Table 3.

Manipulation Check: Effectiveness of Comparison

To check that the social comparison resumes were accurately representing an upward and lateral comparison other, participants were asked to complete the other-evaluation questionnaire. An independent-samples t-test was conducted to compare participants' evaluation of the comparison other in the upward comparison and lateral comparison conditions. Results of this analysis show a significant difference between social comparison resumes, t(179) = 7.06, *p* < .001, such that participants asked to read the upward comparison resume evaluated the student more favorably (M=4.19, SD=1.11) than the participants asked to read the lateral comparison resume (M=2.93, SD=2.94). In addition, the final three items of the self-evaluation questionnaire were averaged to further examine the effectiveness of the social comparison resumes. Results from an independent-samples t-test show a significant difference between social comparison resumes, t(179) = -5.39, *p* < .01, such that participants asked to read the upward comparison resume evaluated themselves less favorably (M=-.62, SD=3.01) than the participants asked to read the lateral comparison resume (M=1.65, SD=2.55). Thus the

manipulation of the comparison level through the use of hypothetical student resumes was successful.

Data Analytic Strategy

Prior to data analysis, tests for multicollinearity were run using the collinearity diagnostic test in SPSS 17. The results found low levels of multicollinearity (*VIF* = 1.92 for comparison, 1.02 for dysphoria, and 1.00 for self-esteem). Hierarchical regression analyses were used to test hypotheses regarding the impact of dysphoria on self-evaluation and motivation. In each regression, the covariate of self-esteem was entered in the first step, main effects of comparison type and dysphoria were entered in the second step and the interaction term was entered in the third and final step. For all regression analyses the self-esteem, social comparison and dysphoria variables were left as is (i.e. not mean centered) and the interaction term was created by mean centering dysphoria and multiplying it with comparison type.

Analysis of the Effect of Dysphoria

To examine the influence of an individual's level of dysphoria on self-evaluation following an upward or lateral comparison, a hierarchical regression analysis was conducted (hypotheses 1 and 2). More specifically, we expected that individuals with higher levels of dysphoria would be more likely to report lower self-evaluation following an upward comparison than a lateral comparison, after partialling out the effects of self-esteem. Hierarchical regression results indicate a significant main effect of self-esteem (β = .71, $p < .001$) on level of self-evaluation. In addition, the results indicate a significant main effect of comparison (β = -.13, $p < .05$) suggesting that the upward social

comparison condition was associated with lower self-evaluation. However, inconsistent with our hypothesis, results did not indicate a significant main effect of dysphoria, suggesting that level of dysphoria is not associated with varying levels of self-evaluation. Furthermore, there was not a significant interaction, suggesting that dysphoria does not impact the relation between type of comparison and level of self-evaluation. For full regression results, see Table 4a.

A hierarchical regression analysis was also conducted to examine the impact of an individual's level of dysphoria on motivation following an upward or lateral comparison (hypotheses 3 and 4). We expected that individuals with higher levels of dysphoria would obtain a lower anagram score following an upward comparison than a lateral comparison, after partialling out the effects of self-esteem. Hierarchical regression results did not show a significant interaction, main effect of comparison, main effect of dysphoria or main effect of self-esteem. For full regression results, see Table 4b.

Although tests did not indicate problems with multicollinearity, both models were run without self-esteem. When examining the impact on self-evaluation, analyses indicated a significant main effect of dysphoria ($\beta = -.08$, $p < .01$), suggesting that higher levels of dysphoria are associated with lower levels of self-evaluation. Results did not show a main effect of comparison ($\beta = -.22$, $p > .05$) or a significant interaction ($\beta = -.01$, $p > .05$). Furthermore, when examining the impact on motivation, results did not show a significant main effect of comparison ($\beta = .23$, $p > .05$), significant main effect of dysphoria ($\beta = -.02$, $p > .05$) or a significant interaction effect ($\beta = .02$, $p > .05$).

Post-Hoc Analysis

In an attempt to further examine the impact of dysphoria on the relation between social comparison and motivation, a hierarchical regression analysis was conducted using total time spent, in minutes, on the anagram task as a measure of motivation (i.e. persistence). As suggested by previous research, unattainable comparisons tend to be associated with less motivation (Lockwood & Kunda, 1997) and individuals with depression – and likewise dysphoria – tend to mobilize less effort during task performance (Gendolla & Richter, 2010). Based on this research, we expected that individuals with higher levels of dysphoria would exhibit less time spent (i.e. less effort) following an upward comparison than a lateral comparison, after partialling out the effects of self-esteem. Hierarchical regression results did not show a significant interaction, main effect of comparison, main effect of dysphoria or main effect of self-esteem. For full regression results, see Table 5.

Further examining the impact of dysphoria on the relation between social comparison and motivation, a hierarchical regression analysis was conducted using the composite self-reported engagement variable as a measure of motivation. Based on attainability research (Lockwood & Kunda, 1997), we expected that individuals with higher levels of dysphoria would exhibit lower self-reported engagement following an upward comparison than a lateral comparison, after controlling for the effects of self-esteem. Hierarchical regression results did not show a main effect of comparison or self-esteem. However, the results showed a main effect of dysphoria ($\beta = -.44$ $p < .01$) suggesting that higher levels of dysphoria are associated with lower levels of

engagement. In addition, the results indicated a significant interaction (β = .27, p < .05), suggesting that level of dysphoria impacts the relation between type of social comparison and motivation. See Table 6 for full regression results.

To further examine the nature of the interaction, simple slopes analyses were run using the Simple Slopes Syntax (Schubert & Jacoby, 2004) in which stand-in variables for the moderator (CES-D scores) were calculated by adding (or subtracting) its SD from its mean. Prior to running these analyses, all continuous variables were mean centered and significant interactions were examined by plotting one standard deviation above and below the mean (Aiken & West, 1991). Analyses indicated that the slope for lower dysphoria was significantly different from zero (β = -.25, p < .05). This suggests that dysphoria had a moderating effect such that when given an *upward* comparison, individuals with lower dysphoria reported significantly less engagement as compared to individuals with lower dysphoria who were given the *lateral* comparison. Furthermore, analyses indicated that the slope for higher dysphoria was marginally significant (β = .19, p = .10). This suggests that dysphoria had a moderating effect such that when given an *upward* comparison, individuals with higher dysphoria reported significantly more engagement as compared to individuals with higher dysphoria who were given the *lateral* comparison (Figure 1).

CHAPTER IV

DISCUSSION

Inconsistencies exist in the social comparison literature about the directional

impact of social comparison on self-evaluation and motivation. In an attempt to resolve

these inconsistencies, research has begun to examine the impact of individual differences

such as self-esteem (Seta, et al., 2006). Social comparison processes have been

implicated in cognitive theories of depression, making the study of dysphoria a natural

individual difference to examine to help further explain these directional inconsistencies.

The aim of the current study was two fold. The first aim was to examine the impact of

upward social comparisons on self-evaluation and motivation. The second aim was to

examine the impact of dysphoria on the effect of social comparison on subsequent self-

evaluation and motivation, after partialling out the effects of self-esteem.

Influence of Dysphoria on Social Comparison Consequences

Self-Evaluation. In the present study, we predicted that dysphoria would

influence the relation between social comparison and self-evaluation, after controlling for

the effects of self-esteem. More specifically, people with high dysphoria were expected

to report more negative self-evaluations following an upward social comparison but not a

lateral comparison.   Our results did find that upward social comparisons tend to be

associated with more negative reports of self-evaluation than lateral social comparisons,

regardless of level of dysphoria. This finding may lend support to the REM model of

social comparison. In our study, the way that items within our other-evaluation and self-evaluation questionnaires were worded primed participants to utilize evaluative thinking when providing responses. By doing this, when providing self-evaluations, the participants may have been more likely to use the impressive resume comparison as a reference point for evaluating their own abilities as opposed to seeing their abilities as similar to the comparison other.

In addition, the results indicated a main effect of self-esteem, suggesting that higher self-esteem is associated with more positive self-evaluation. However, despite what we would expect from the depression literature, our results did not indicate that participants with higher dysphoria reported more negative self-evaluation, when self-esteem was in the model. In contrast, when self-esteem was not in the model, our results indicated that participants with higher dysphoria were associated with more negative self-evaluation. Although we expected that the additional cognitive biases about others and the world, characteristic of individuals with depression – and likewise dysphoria – would further explain the directional inconsistencies in the social comparison literature, our findings may indicate otherwise. In particular, one explanation for our results is that the negative biases about the self, common to both dysphoria and low self-esteem, may have a greater impact on self-evaluation than the additional biases characteristic to dysphoria. Lastly our results did not find an interactive effect of dysphoria and social comparison on self-evaluation.

Motivation. We also examined the effect of dysphoria on the relation between social comparison and subsequent motivation, after controlling for the effects of self-

esteem. We predicted that dysphoria would influence this relation, in that people with higher dysphoria would exhibit less motivation following an upward social comparison but not a lateral comparison. Our results did not show a significant interactive effect of dysphoria. Furthermore, our results did not show a significant effect of social comparison on motivation or an effect of dysphoria on motivation. This finding is inconsistent with what we expected based on the discussed social comparison and depression literature. One potential explanation for this lack of significance could be due to the difficulty level of the anagram task or the importance of the task to participants. According to the motivational intensity theory, the amount of effort (common measure of motivation) mobilized to accomplish a task depends on two factors: task difficulty and the importance of success for the performer (Gendolla & Richter, 2010). The model would suggest that at a certain point, a task may be too difficult or lack importance to the performer and therefore little effort would be mobilized to complete the task. Based on this model, without varying the level of anagram task difficulty, our study is unable to rule this out as a possible explanation for our non-significant results.

Based on previous research, motivation has both physical and cognitive indicators (Karoly & Ruehlman, 1983; Brinkmann & Gendolla, 2007; Brinkmann & Gendolla, 2008; Gendolla & Richter, 2010). In our study, the use of an anagram task was one way of assessing cognitive indicators of motivation. However, in our post-hoc analysis, we also examined the impact of dysphoria on the relation between social comparison and motivation by utilizing an additional cognitive measure. Specifically, we used 4 items from our self-reported engagement questionnaire. As expected, our results indicated that

participants with higher dysphoria were associated with lower self-reported motivation. Furthermore, opposite of what we expected, our results indicated a significant interactive effect of dysphoria, suggesting that people with higher dysphoria are more likely to report higher motivation following an upward social comparison than lateral social comparison. One potential explanation for this finding is that the severity of depressive symptoms experienced by our population is less than what one would expect to find in a clinically depressed population. Therefore, the motivational deficits seen throughout the depression literature may not apply to a dysphoric population.

Limitations of the Study

One potential limitation of our study is the age range of participants. Specifically, as suggested by Lockwood and Kunda (1997), the perceived attainability of the comparison other's performance is important when considering the effect on self-evaluation and motivation. In this study, college students were asked to read an article about a successful, older student (attainable) or a successful, younger student (unattainable) before reporting on their self-evaluation and motivation (Lockwood & Kunda, 1997). As done by Lockwood and Kunda (1997), to account for attainability, we created social comparison resumes that depicted an older student. By utilizing an entry-level psychology course to recruit participants, we assumed that the participants would be in their freshman or sophomore year, making the senior comparison other appear more attainable. However, our participants ranged from age 18 to 26, making it possible that a number of our participants were not freshmen and sophomores, potentially weakening the attainability of the comparison. Although expected effects of social comparison on self-

evaluation were found, we did not find the expected effects for motivation. Without measuring attainability directly, it is difficult to determine whether the social comparison was perceived as attainable or not and what role attainability played in subsequent measures of self-evaluation and motivation. Furthermore, we designed our social comparison resumes based off of previous literature and piloted them to insure that we were representing an upward and lateral comparison. However, it is hard to determine if our participants actually view them this way. From our data, we can only say with certainty that we created significantly different comparisons.

As discussed, motivational deficits are characteristic of depression – and likewise dysphoria. However, our study did not find a main effect of dysphoria on motivation, as assessed by the anagram task, or an interactive effect of dysphoria and social comparison on motivation or on self-evaluation. One potential limitation of our study that may account for these null findings is that our study failed to consider participants' personal goals. In particular, previous research by Giordano, Wood and Michela (2000) illustrated that dysphoric participants were more negatively impacted by upward social comparisons that were congruent with their personal goals. For example, a comparison to an extremely well-liked other would more negatively impact a person whose goals are interpersonally driven than would a comparison to an academically successful other. Although we created our social comparisons based on existing literature, by not considering whether academic achievement was a personal goal of our participants, we may have unsuccessfully created relevant and impactful resumes for our dysphoric participants.

The use of an anagram task as a measure of motivation is a third possible limitation of our study, despite the fact that past studies have frequently used anagram task performance as an index of motivation (Shah, et al., 1998; Shah, & Higgins, 2001; Markman, et al., 2006). In order to assess motivation, we examined the number of anagrams answered correctly. However, other factors besides motivation could have contributed to the anagram task results. For example, a participant could have had little motivation and high anagram task proficiency, or high motivation and little anagram task proficiency. In fact, Gendolla and Richter (2010) suggest that level of motivation (measured by effort mobilization) does not always correspond with task success. Future studies examining dysphoric individuals should consider alternative measures of motivation such as physiological measures (i.e. cardiovascular reactivity), which would allow for measures of physical and cognitive effort. Furthermore, utilize varying levels of anagram task difficulty would be beneficial as it would help rule out the possibility of the task being too difficult.

Implications and Future Directions

In summary, our results were able to shed some light on the directional inconsistencies seen in the social comparison literature. We designed our social comparison resumes to incorporate the factors associated with the SEM model (psychological closeness and relevance) and the concept of attainability suggested by Lockwood and Kunda (1999). Based on these factors, one would expect that upward social comparison would be associated with more positive self-evaluation; however the opposite was found. As discussed above, one explanation for this finding is that some

portion of the participants could have seen the upward comparison resume as unattainable. However, it seems more likely that our results support the REM model of social comparison. Specifically, that by asking participants to directly compare their abilities (current and future) to the comparison other, the design of our study may have primed participants to utilize evaluative thinking, contrasting their abilities to the comparison other and increasing the likelihood of more negative self-evaluations. In addition, although we did not find interactive effects for self-evaluation and motivation this lack of significance may suggest implications for the general population and for the impact of social comparisons as a whole. Specifically, social comparisons impact everyone, no matter their individual level of dysphoria.

Additionally, the results of our study contribute further support to the ideas found in the depression literature. Specifically, as discussed, one common characteristic of depression is the tendency to see the self, others, and the world through a negative lens. Our finding that participants with higher dysphoria are associated with more negative self-evaluations supports this concept. Although our study is unable to make any causal inferences about this result, it may provide some insight into factors associated with depression that could be useful in a therapeutic setting. For example, much of the work on cognitive behavioral therapy for depression is aimed at providing clients with the skills to recognize and modify unrealistic, negative cognitions. Given our findings, therapists can incorporate a client's negative self-evaluation into the teaching of these skills to potentially decrease the maintenance of depression and help limit the development of a depressive episode.

Through the use of daily diary methodology, previous research has examined the frequency, type (congruent with personality style or incongruent) and direction of social comparisons made by dysphoric individuals as compared to non-dysphoric individuals (Giordano, et al., 2000). To determine their congruent verse incongruent domains, Giordano and colleagues (2000) split participants into two depressive personality styles: those invested in interpersonal relationships and those invested in achievement and status. The study found that dysphoric individuals tend to engage in more congruent comparisons and found that changes in mood are more highly associated with congruent comparisons than incongruent comparisons. More specifically, the study found that for dysphoric individuals, congruent upward comparisons were associated with more *negative* self-evaluations than incongruent upward comparisons and congruent downward comparisons were associated with more *positive* self-evaluation than incongruent downward comparisons. Future studies may benefit from examining this relation further by looking at personal goals in general. More recent literature has illustrated an association between depression and goal attainment (Emmons, 1991; Emmons, 1992; Higgins, et al., 1997; Hadley & MacLeod, 2010). Continuing the use of daily diary methodology, it would be interesting to examine the direction and type of social comparisons made by dysphoric individuals in relation to their personal goals and how that impacts their subsequent self-evaluation and motivation.

Additionally, future research on the relation between dysphoria, social comparison, self-evaluation, and motivation may benefit from utilizing a different or more extensive measure of motivation. As discussed, although anagram tasks are used

throughout the social comparison literature as a measure of performance and motivation, it did not yield significant results in our study. If future studies continue to utilize anagram tasks, it would be beneficial to include varying levels of anagram task difficulty in order to rule out the effects of task difficult on measured motivation. In addition, employing physiological measures, such as cardiovascular reactivity, would allow researchers to address physical and cognitive signs motivation to gain a more accurate depiction of how these constructs interact.

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Table 1.

Inter-Item Correlation Matrix of Engagement Questionnaire

Variables	1	2	3	4	5	6
1. Question 1	1.00					
2. Question 2	-.10	1.00				
3. Question 3	.32**	.41**	1.00			
4. Question 4	.17**	.35**	.64**	1.00		
5. Question 5	.05	.68**	.54**	.51**	1.00	
6. Question 6	-.31**	.34**	.24**	.24**	.34**	1.00

Note. N=181. *p < .05, **p < .01

Table 2a.

Descriptive Statistics of Study Variables in Total Sample

Variables	Mean	SD	Range
Age	19.33	1.45	18 - 25
Dysphoria	13.77	10.04	0 – 50
Self-Esteem	20.39	3.8	9 – 25
Other-Evaluation	3.64	1.33	-4.8 – 5
Self-Evaluation	2.38	1.85	-3.5 – 5
Anagram Score	3.67	1.70	0 – 8
Anagram Total Time in Minutes	7.6	3.50	2.4 – 22.3
Engagement Score	1.24	1.10	-3 – 3

Note. N=181

Table 2b.

Descriptive Statistics of Study Variables by Condition

Variables	Mean	SD
Age		
Upward	19.36	1.45
Lateral	19.29	1.47
Dysphoria		
Upward	13.47	9.89
Lateral	14.15	10.27
Self-Esteem		
Upward	20.86	3.56
Lateral	19.80	4.12
Other-Evaluation		
Upward	4.19***	1.12
Lateral	2.94***	1.28
Self-Evaluation		
Upward	2.30	2.02
Lateral	2.47	1.60
Anagram Score		
Upward	3.77	1.68
Lateral	3.54	1.73
Anagram Total Time		
Upward	7.51	3.59
Lateral	7.34	3.39
Engagement Score		
Upward	1.23	1.12
Lateral	1.27	1.08

Note. N=181, ***mean difference between upward and lateral conditions $p < .001$

Table 3.

Correlation Matrix of Study Variables

Variables	1	2	3	4	5	6	7	8
1. Dysphoria	1.00							
2. Self-Esteem	-.70**	1.00						
3. Other-Evaluation	.02	.03	1.00					
4. Self-Evaluation	-.50**	.70**	.16*	1.00				
5. Anagram Score	-.06	.12	-.04	-.02	1.00			
6. Engagement Score	-.19**	.10	.02	-.04	.30**	1.00		
7. Anagram Total Time	-.04	-.02	-.03	.01	.29**	.18*	1.00	
8. Comparison	-.04	.14	.46**	-.03	.07	-.01	-.01	1.00

Note. N=181. *p < .05, **p < .01

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Table 4a.

Dysphoria and Social Comparison Regressed on Self-Evaluation

Variable	B	SE B	β	R^2	ΔR^2
Step 1				.47***	
Self-Esteem	.33***	.03	.69		
Step 2					.02
Self-Esteem	.34***	.04	.71		
Social Comparison	-.49*	.20	-.13		
Dysphoria	.002	.01	.01		
Step 3					.00
Self-Esteem	.34***	.04	.71		
Social Comparison	-.49*	.20	-.13		
Dysphoria	.01	.02	.05		
Dysphoria X Social Comparison	-.01	.02	-.06		

Note. N=181. *p < .05, **p < .01, ***p < .001

Table 4b.

Dysphoria and Social Comparison Regressed on Anagram Score

Variable	B	SE B	β	R^2	ΔR^2
Step 1				.01	
Self-Esteem	.05	.03	.12		
Step 2					.00
Self-Esteem	.04	.05	.10		
Social Comparison	.17	.26	.05		
Dysphoria	-.00	.02	-.02		
Step 3					.00
Self-Esteem	.04	.05	.10		
Social Comparison	.17	.26	.05		
Dysphoria	-.01	.02	-.04		
Dysphoria X Social Comparison	.01	.03	.04		

Note. N=181. *$p < .05$, **$p < .01$, ***$p < .001$

Table 5.

Dysphoria and Social Comparison Regressed on Total Time Spent on Anagram Task

Variable	B	SE	β	R^2	ΔR^2
Step 1				.00	
Self-Esteem	-.01	.07	-.01		
Step 2					.00
Self-Esteem	-.06	.10	-.06		
Social Comparison	-.17	.54	-.02		
Dysphoria	-.03	.04	.07		
Step 3					.00
Self-Esteem	-.06	.10	-.06		
Social Comparison	-.17	.54	-.02		
Dysphoria	-.04	.05	-.12		
Dysphoria X Social Comparison	.02	.05	.04		

Note. N=181. *$p < .05$, **$p < .01$, ***$p < .001$,

Table 6.

Dysphoria and Social Comparison Regressed on Self-Reported Engagement

Variable	B	SE	β	R^2	ΔR^2
Step 1				.01	
Self-Esteem	.03	.02	.10		
Step 2					.03
Self-Esteem	-.02	.03	-.07		
Social Comparison	-.05	.17	-.02		
Dysphoria	-.03*	.01	-.24		
Step 3					.04**
Self-Esteem	-.02	.03	-.08		
Social Comparison	-.04	.16	-.02		
Dysphoria	-.05**	.01	-.44		
Dysphoria X Social Comparison	.04**	.02	.27		

Note. N=181. *$p < .05$, **$p < .01$, ***$p < .001$,

Figure 1.

Interactive Effect of Dysphoria and Social Comparison on Engagement
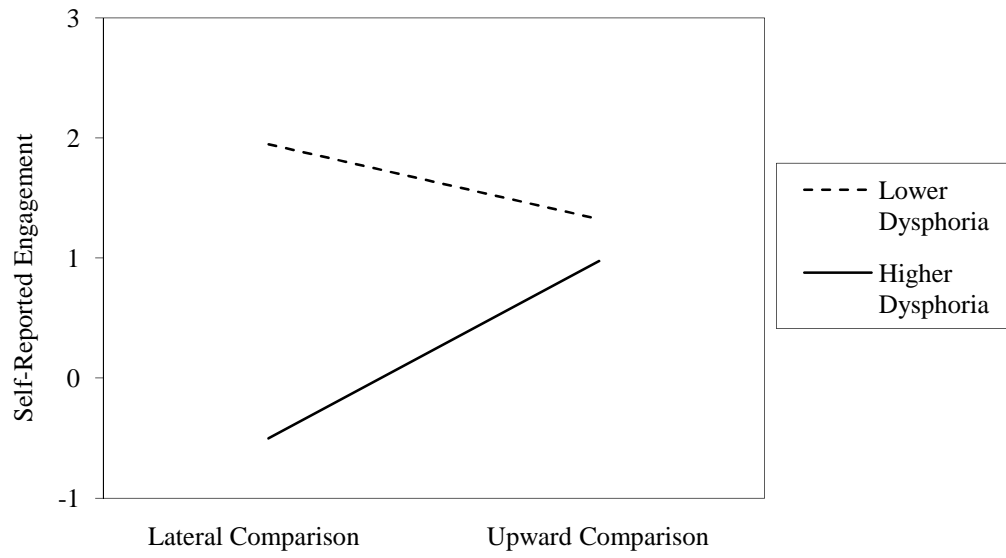
Social Comparison Pilot Data

In order to confirm that the social comparison manipulations are accurately taping into an upward and lateral comparison, pilot data was collected from 40 undergraduate students enrolled in one section of the General Psychology course at the University of North Carolina at Greensboro. Results indicate that the upward comparison resume is accurately represented however, the lateral comparison may be perceived as slightly more downward than lateral. For this reason, minor changes were made to the lateral comparison. The results are as followed:

Question 1: "By your senior year, how do you think your level of accomplishment will compare to the student you are evaluating?" Differences were significant (t(38)=-4.694, p=.000). The mean of the upward comparison was 4.50 and the mean of the lateral comparison was 6.82.

Question 2: "By your senior year, how do you think your level of success with compare to the student you are evaluating?" Differences were significant (t(38)=-4.668, p=.000). The mean of the upward comparison was 4.67 and the mean of the lateral comparison was 7.00.

Question 3: "When you are a senior, how do you think your resume will compare to the student you are evaluating?" Differences were significant (t(38)=-4.474, p=.000). The mean of the upward comparison was 4.72 and the mean of the lateral comparison was 6.86.

CES-D Scale (Department of Health and Human Services, National Institute of Mental Health)
Circle the number for each statement that best describes how often you felt of behaved this way DURING THE PAST WEEK

	Rarely or None Of the Time (Less than 1 Day)	Some or a Little of the Time (1-2 Days)	Occasionally or A Moderate Amount of Time (3-4 Days)	Most or all of the Time (5-7 Days)
I was bothered by things that usually don't bother me	0	1	2	3
I did not feel like eating: my appetite was poor.	0	1	2	3
I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
I felt that I was just as good as other people.	0	1	2	3
I had trouble keeping my mind on what I was doing. I felt depressed.	0	1	2	3
I felt that everything I did was an effort.	0	1	2	3
I felt hopeful about the future.	0	1	2	3
I thought my life had been a failure.	0	1	2	3
I felt fearful.	0	1	2	3
My sleep was restless.	0	1	2	3
I was happy.	0	1	2	3
I talked less than usual.	0	1	2	3
I felt lonely.	0	1	2	3

People were unfriendly.	0	1	2	3
I enjoyed life.	0	1	2	3
I had crying spells.	0	1	2	3
I felt sad.	0	1	2	3
I felt that people disliked me.	0	1	2	3
I could not get "going."	0	1	2	3

Rosenberg Self-Esteem Scale

*Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.*

1. On the whole, I am satisfied with myself.	SA	A	D	SD
2. At times, I think I am no good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I certainly feel useless at times.	SA	A	D	SD
7. I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10. I take a positive attitude toward myself.	SA	A	D	SD

Other-Evaluation Measure

Please answer the following questions about the student resume you just read (-5=not at all, 5=very)

1. How successful do you think this student is at UNCG

2. How impressive is this student's resume?

3. How accomplished do you think this student is?

4. How attainable is this student's success?

5. How qualified do you think this student is for the position?

6. Would you recommend that we hire this student?

Self-Evaluation Measure

Please answer the following questions based on how you feel at this time. (-5=not at all, 5=very)

1. How successful do you think you are?

2. How satisfied are you by your own success?

3. How confident are you in your abilities

4. How qualified for the position do you think you will be by your senior year?

Please answer the following questions based on the student you just evaluated (-5=much worse, 0=as good, 5=much better)

5. By your senior year, how do you think your level of accomplishment will compare to the student you are evaluating?

6. By your senior year, how do you think your level of success will compare to the student you are evaluating?

7. When you are a senior, how do you think your resume will compare to the student you are evaluating?

Engagement Questions

For the following questions, please answer based on a 5 point Likert scale where -3=not at all and 3=very.

1. I found this task to be challenging.

2. I enjoyed participating in this task.

3. I put in a lot of effort into completing this task.

4. It was important for me to do well on this task.

5. I found this task to be interesting.

6. I did well on this task as compared to others.

Anagram Task

In an attempt to test motivation, defined as performance, a computer-based anagram task will be used. In this task, participants will be given 10 anagrams and asked to answer as many as possible. An example of the task can be seen below:

ANAGRAMS
when
itch
cause
codes
finer
lamb
moist
ocean
mined
broth

ANSWER
hewn
chit
sauce
decos
infer
balm
omits
canoe
denim
throb

Social Comparison Script:

"There is an undergraduate research assistant opening in our lab and we would like your help evaluating one of the potential students. This particular student is a Senior Psychology major at UNCG. Please keep in mind that we are looking for students that are intelligent, reliable, independent and motivated. Please read the following resume from a student."

Social Comparison Resumes
EDUCATION (upward comparison)

University of North Carolina at Greensboro August 2008- Present
Psychology Major, Biology Minor
Cumulative GPA: 3.99

HONORS / AWARDS

Dean's List: Fall and Spring Semesters 2008-2011
Phi Beta Kappa Society
Member of Psychology Honor Society, Psi Chi: 2010-Present
Piedmont Leadership Award: 2010
High School Valedictorian: 2008

EXPERIENCE

Research Assistant, 2009-2011
- Performed data analysis
- Ran study participants
- Co-author on published journal article
- Collaborated on a pending journal article
- Co-authored an abstract presented at a poster conference Spring 2010

Triangle YMCA Summer camp, Wake Forest, NC June-July 2010
- Supervised the overnight care of teen campers
- Planned and organized daily activities
- Delegated responsibilities to fellow counselors
- Provided support and encouragement to campers

Sales Associate, Barnes and Noble, Raleigh, NC February-May 2008-2009
- Maintained and restocked inventory
- Provided customer service
- Operated computerized cash register system

Childcare, Raleigh, NC 2008-2010
- Provided child care several families on the weekends

SKILLS/ EQUIPMENT KNOWLEDGE

Microsoft Word, PowerPoint, Excel, Reference Manager, Access, SPSS
Organizational and communication skills

VOLUNTEER / ACTIVITIES

Volunteer, Homeless Shelter, 2008-2011
Volunteer, Ronald McDonald House, 2009-2011
Volunteer, Habitat for Humanity, 2010-2011
Student Tutor, Grimsley High School, 2010-2011
Team Captain, Intramural Flag Football, Soccer and Basketball, 2009-2010; Arena Football, Softball, Innertube Water Basketball, Sand Volleyball and Kickball, 2011

EDUCATION (lateral comparison)

University of North Carolina at Greensboro August 2008- Present
Psychology Major
Cumulative GPA: 3.0

HONORS / AWARDS

Dean's List: Fall and Spring 2010

EXPERIENCE

Research Assistant, 2010
- Performed data analysis
- Presented at weekly group lab meeting

Sales Associate, Old Navy, Raleigh, NC February-May 2010-present
- Maintained and restocked inventory
- Provided customer service
- Operated computerized cash register system

Childcare, Raleigh, NC 2008-2010
- Provided child care several families on the weekends

Lifeguard, Raleigh, NC, May-July 2010

SKILLS/ EQUIPMENT KNOWLEDGE

Microsoft Word, PowerPoint, Excel, SPSS
Organizational and communication skills

VOLUNTEER / ACTIVITIES

Volunteer, Soup Kitchen, 2009-2010
Intramural Flag Football, Soccer and Basketball, 2009-2010
Volunteer, Homeless Shelter, 2008-2009