

Is Seeing Believing?

Exploring Positive Psychological Effects of Entertainment Media

by

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List of Appendices.....	iv
List of Tables.....	v
List of Figures.....	vi
Abstract.....	vii
Introduction.....	1
<i>Researched Media Effects</i>	1
<i>The Werther Effect</i>	3
<i>Potential Positive Effects of Entertainment Media</i>	4
<i>Individual Transportation</i>	6
<i>Social Learning</i>	7
<i>Perspective-Taking</i>	7
<i>Objectives and Overview of the Research</i>	9
Study 1.....	11
<i>Hypotheses</i>	11
<i>Participants</i>	12
<i>Design</i>	12
<i>Procedure</i>	13
<i>Materials</i>	13
<i>Measures</i>	14
Results.....	22
<i>Paired-Sample Comparison of Means</i>	23

<i>Identification Manipulation</i>	24
<i>Analyses of Variance</i>	27
Discussion.....	36
Study 2.....	39
<i>Hypotheses</i>	39
<i>Participants</i>	39
<i>Procedure</i>	40
<i>Materials</i>	40
<i>Measures</i>	41
Results.....	42
<i>Paired-Sample Comparison of Means</i>	42
<i>Analyses of Variance</i>	44
Discussion.....	52
General Discussion.....	53
<i>Summary of Results</i>	53
<i>Implications of Findings</i>	54
<i>Limitations and Future Directions</i>	57
<i>Conclusion</i>	60
References.....	62

Appendices

A: Identification Manipulation Instructions.....	69
B: The Locus of Control Scale.....	72
C: The State Self-Esteem Scale.....	74
D: The Hope Scale.....	75
E: The General Self-Efficacy Scale.....	76
F: The Positive and Negative Affect Schedule.....	77
G: Section II of the Law School Admissions Test.....	78
H: The Transportation Scale & Identification Questions.....	82
I: The Interpersonal Reactivity Index.....	83

List of Tables

1-1: Descriptive Statistics for Dependent Variables and Predictors.....	24
1-2: Results of Analyses of Variance Comparing Manipulation Groups.....	26
1-3: Summary Table Displaying Significant Results.....	28
1-4: Analysis of Variance for Locus of Control at Time 2.....	29
1-5: Analysis of Variance for Self-Esteem at Time 2.....	30
1-6: Analysis of Variance for Hope at Time 2.....	31
1-7: Analysis of Variance for Self-Efficacy at Time 2.....	32
1-8: Analysis of Variance for Mood Post-Film.....	33
1-9: Analysis of Variance for Positive Affect Post-Film.....	34
1-10: Analysis of Variance for Negative Affect Post-Film.....	35
1-11: Analysis of Variance for Cognitive Task Performance at Time 2.....	36
2-1: Descriptive Statistics for Dependent Variables and Predictors.....	43
2-2: Summary Table Displaying Significant Results.....	44
2-3: Analysis of Variance for Locus of Control at Time 2.....	45
2-4: Analysis of Variance for Self-Esteem at Time 2.....	46
2-5: Analysis of Variance for Hope at Time 2.....	47
2-6: Analysis of Variance for Self-Efficacy at Time 2.....	48
2-7: Analysis of Variance for Mood Post-Film.....	49
2-8: Analysis of Variance for Positive Affect Post-Film.....	50
2-9: Analysis of Variance for Negative Affect Post-Film.....	51

List of Figures

1-1 Identification with <i>Will</i> or <i>Chucky</i> according to manipulation group.....	27
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Abstract

Is Seeing Believing?
Exploring Positive Psychological Effects of Entertainment Media

by Jonathan White

This thesis is an examination of whether ostensibly inspirational media has measurable positive effects on psychological states and traits, and of the predictors of those effects. Previous research concerning entertainment media effects has focused primarily on consumerism, materialism, violence, and sex. There has been little emphasis on potential advantages of identifying with a protagonist experiencing personal growth, as occurs through most popular films and stories. It was hypothesized that identification with such a protagonist would predict positive changes in psychological states and traits. Two studies were conducted. In Study 1, participants (N= 127) completed a set of baseline psychological measures and returned two weeks later, completed a measure of mood, and viewed an inspiring film. Afterwards participants repeated all previous measures and completed measures of identification and transportation. Participants experienced an increase in positive affect and a decrease in negative affect from pre- to post-film, and identification with the protagonists both predicted positive changes in locus of control, self-esteem, and hope. Transportation also predicted increased positive affect post-film. The second study substituted a novella for the film. Participants' (N=109) locus of control moved internal from pre- to post-novella. Identification with the protagonist predicted an increase in self-esteem. Transportation predicted an increase in positive affect and a decrease in negative affect. Limitations of the research and implications of inspiring media potentially having positive psychological effects are discussed.

We frequently hear novels and films being referred to as ‘inspiring’ or ‘uplifting’. The connotation of these adjectives is that the novel or film should have some tangible positive effect on us. It should put us in a better mood, give us hope, encourage us in our endeavours, or help us gain a sense of control over our lives. We repeatedly praise a moving novel or film using these words, but does it really have the effect we believe it has? If so, the increasing pervasiveness and persuasiveness of the media may serve, in some instances, to promote psychological health. This study examines these instances and provides insight into the processes underlying the inspiration.

Researched Media Effects

The purpose of this study is to identify potential positive psychological effects of certain types of media, specifically, inspirational films and novellas. However, in the interest of understanding audio-visual media effects, a general review of the literature on the impact of television is warranted. A number of research areas concerning television and media effects have been explored; these include consumption and materialism, aggression and violence, sex and body image, and anti-social attitudes (Shrum, 2004). Consumption has been studied extensively in the television advertising literature and research has demonstrated that advertising has a consistent effect of increasing consumerism, albeit with different effect strengths for different types of advertisements (Assmus, Farley, & Lehmann, 1984; Gibson, 1996; Jones, 1995). While consumption is generally augmented by advertising, the television programs in-between the advertisements generally augment materialism in viewers as well (Kniaseva, as cited in Shrum, 2004). This is thought to be because the average viewer sees television characters

with a higher standard of living than they have and want what they see based on dissatisfaction with their own socio-economic status.

The plethora of media research dedicated to consumerism is rivalled only by that dedicated to aggression and violence. A meta-analysis by Paik and Comstock (1994) consisting of results from 217 studies of the relationship between exposure to television violence and aggressive and anti-social behaviour asserts that there is a causal relationship. Two theories come forward from the meta-analysis to explain the effect, both of which have received equal empirical support: 1) Violence on television influences attitudes toward violence, which in turn influence behaviour; and 2) Viewing violence places violence 'front-of-mind' for viewers as a choice of action, increasing both recall of times when violence was considered or used as well as consideration of violence in hypothetical or future scenarios.

Violence in the media is one commonly voiced concern in our society. Sex in the media is another. An article by Brown, Halpern, and L'Engle (2005) surveyed 471 female adolescents (average age 13.7) and found that earlier maturing girls, according to pubertal status, reported more interest than their less mature peers in being exposed to sexual content in films, television, magazines, and music; and were more likely to interpret this content as approval of teens having sexual intercourse. Paralleling the effect of materialism, abundant sex and sexual imagery in the media may lead to attitude and behaviour changes due to dissatisfaction with either one's personal sexual situation or one's personal body image, the former being theoretical based on findings concerning materialism and the latter having been researched extensively (Greenwood & Pietromonaco, 2004). Sex and violence combined, also labelled violent erotica,

consistently has a larger effect on attitudes than one or the other independently (Comstock, 2004). The discussed effects of television: feeling inadequate materialistically, feeling aggressive from exposure to violence, and feeling inadequate sexually, among others; lead to more generalized effects as well.

Heavy television viewing has been linked in research to greater anxiety and fearfulness (Bryant, Carveth, & Brown, 1981), greater pessimism about marriage (Shrum, 1999), restriction of exposure to diversity (Schumann, 2004), and greater interpersonal mistrust (Gerbner et al., 1980; Shrum, 1999). Most research concerning television, however, is related to consumption, which is perhaps the least offensive of the alleged effects. All of this recent research supports the notion that the media has tangible effects on behaviour that we should take seriously. However, we have known this for some time.

The Werther Effect

The Werther Effect is named after the hero of Johann Wolfgang von Goethe's 1774 book: *The Sorrows of Young Werther*. In its concluding pages, the protagonist, Werther, dresses himself up, sits at his desk in front of an open book, and shoots himself. So many young men imitated Werther's suicide following the book's publication that the book was banned in several European countries. Looking for a similar effect due to modern media, sociologist David Philips (1983) examined suicide statistics in the United States between 1947 and 1968. He found that within two months of a front-page newspaper suicide story, an average of 58 more people than usual had, according to historical statistics, killed themselves.

These suicides took place principally in geographical areas where the first suicide was highly publicized, and aggregate suicide numbers corresponded with the volume of

publicity surrounding the initial suicide. Philips also linked numbers of possible 'covert' suicides (i.e. single-car accidents) to front page suicide stories and found that these types of accidents increased following the story. Furthermore, the driver was significantly more likely than not to be the same sex and in the same age category as the publicized suicide. Going beyond self-harm, Philips (1983) later found that in the ten days following heavyweight championship prize fights that received coverage on network evening news, between 1973 and 1978, homicides increased, but only for Blacks if the loser of the match was Black and only for Whites if the loser of the match was White. Other related studies have repeatedly shown that social imitation of the media takes place in our society (e.g., Bollen & Phillips, 1982; Gould & Schaffer, 1986; Phillips & Carstensen, 1986; Schmidtke & Hafner, 1988). Considering the attitudinal and behavioural effects discussed the overall picture of media effects on human behaviour painted by existing psychological and sociological research is not a highly favourable one.

Potential Positive Effects of Entertainment Media

Although what has been discussed above presents the media as bringing forward our less-desirable attitudes and behaviours, it is conceivable that past research in the field has been skewed toward highlighting what we fear rather than what we may hope for.

The introduction to the millennial issue of *American Psychologist* makes the case:

"The new century challenges psychology to shift more of its intellectual energy to the study of the positive aspects of human experience... The exclusive focus on pathology that has dominated so much of our discipline results in a model of the human being lacking the positive features, which make life worth living... The aim of Positive Psychology is to begin to catalyze a change in the focus of psychology

from preoccupation only with repairing the worst things in life to also building positive qualities” (Seligman & Csikszentmihalyi, 2000, p.3).

What optimism is there, then, for finding that audio-visual media can have positive effects? An exploration of popular films and novellas may offer an answer. Academy or Golden Globe Award winning films and bestseller novels often contain all of the antecedents for the discussed effects of television. These antecedents include advertising to beget materialism, violence to beget aggression, sex to beget earlier sexual behaviour, and attractive and wealthy characters to beget self-denigrating social comparisons on wealth and body image, leading to lessened self-esteem and increased anti-social behaviour. These aspects of a blockbuster film or novella, however, are small bits of the larger picture; they are attendant themes or incidental scenes in the telling of the story. The *story* is what the novel or film is about. The story varies broadly, of course, but nevertheless there are salient and ever-present themes to our most popular and celebrated novels and films. These often tell inspiring stories of growth and learning, and allow the reader or viewer to vicariously live those experiences and overcome the protagonists’ obstacles. Our most famous awards characterize the inspiration that makes a work great. The Nobel Prize in Literature is awarded to an author who has, in the words of Alfred Nobel (1895), produced "the most outstanding work of an *idealistic tendency*". Concerning films, *Time* film critic Richard Schickel states that "There is a certain kind of movie that wins Oscars and it is one that is morally and psychologically uplifting and inspiring and it sends you out with maybe a little tear in the eye, but hope in your heart" (*CBS News*, 2002). An inspiring story, however, is not all that is required to inspire a reader or viewer.

Individual Transportation

Obviously, individual differences play a role in determining the extent to which a viewer or reader is inspired as well. One individual difference factor that has been explored is the degree to which the audience is drawn into the work. What good is an inspiring story if no one is inclined to pay attention to it? For this reason, to have a positive effect on a reader or viewer, a work must also be absorbing or 'transporting'. Green and Brock (2000) define transportation as absorption into a story, consisting of imagery, affect, and attentional focus. They hypothesize and conclude that being transported into a narrative increases the effect of the narrative on the reader's behaviour. Following the development and validation of a transportation scale, their study demonstrated that transportation augments story-consistent beliefs, operationally defined as holding perspectives similar to the author; reduces criticality of the story, operationally defined as finding false notes; and increases favourable evaluations of protagonists. If growth, learning, and being uplifted are part of what we, as a society, crave from novels and films, then these stories have to be engrossing, as we need to be transported into the story in order to be affected. Green and Brock's research also found that it made little or no difference to transportation and story-consistent beliefs whether the information was presented as fact or fiction (Green, Garst, & Brock, 2004). As such, it stands to reason that we may learn from fictional film protagonists. Although there is limited research on how we learn from fictional individuals, learning from real-life individuals is well-researched and may shed light on the process.

Social Learning

The theory of social learning, created and used extensively by Bandura (1969, 1977, 1986) and others, contains three basic principles: First, observational learning occurs through modeling the observed behaviour repeatedly; Second, individuals are more likely to adopt a modeled behaviour if it results in outcomes they value; Third, observers are more likely to adopt a behaviour if they empathize with or admire the model.

The lines between social learning theory and learning from films are not difficult to draw. Bandura (1977) states that learning takes place when the learner applies the observed behaviour. Note how often we hear catch phrases and dialogue from films quoted afterwards (Fischhoff et al., 2000). Bandura asserts that we will model behaviour that achieves outcomes that we value. Consider not only that viewers want what their favorite protagonists achieve, but also that when deeply transported into a film, having identified with the protagonist they also fervently want the desired outcome for the protagonist. Finally, Bandura notes that we imitate more often when we feel similar to the behavioural model and look up to the model. Our identification with, and favourable evaluation of the protagonists, which is facilitated by transportation, render us likely to imitate. Social learning, while traditionally applied experimentally to real-life models (Chartrand & Bargh, 1999), can occur using fictional models, as other lines of research have demonstrated.

Perspective-Taking

A pertinent experiment by Galinsky, Wang, and Ku (2005) demonstrates that participants can take on attitudinal and behavioural characteristics of a fictional character.

In one study, participants were given a photograph of an attractive cheerleader and asked to write about a day in her life. Randomly, half of the participants were told to take the cheerleader's perspective while the other half were told to suppress their stereotypes. As they expected, researchers found that perspective-taking caused participants, on a post-test, to rate themselves as more beautiful and sexy, in line with the cheerleader stereotype, than those who suppressed their stereotypes. The researchers performed the same study with a photograph of an elderly individual, with an extra step to verify the effect of perspective-taking versus stereotype suppression, and found that participants, timed walking down the hallway after the experiment, walked slower if they were in the perspective-taking condition than in the stereotype suppression condition. The stereotype suppression group, in both studies, is not the opposite of the perspective-taking condition, but simply does not allow the participant to use their preconceived notions to create a model of the individual with whom they are asked to identify.

Another study within the same experiment used a different form of media to achieve a related effect. The experimenters used three conditions, two in which participants listened to an audiotape of a day in the life of a person who identified himself as a professor of political science and were told either to listen as objectively as possible or to take the professor's perspective. The third condition was a control group with no intervention, simply a distracting task. Participants then completed a measure of cognitive task performance that a professor would stereotypically perform well on: an adapted version of 24 analytical Law School Admissions Test questions. The groups that had listened to the audio-tape did not differ from each other, but both outperformed those who had not listened to the audio tape. These experiments demonstrate not only that

perspective-taking with a fictional character can influence self-perception as measured in terms of attitudes or simple behaviours such as walking, but that a change in a person's self-perception based on an audio-tape can be so deep that they perform differently on a test of cognitive task ability. If identification with a fictional character from a photograph or audiotape can have such prominent effects, viewing a feature-length film or reading a novella designed to have us identify with the protagonist and with their learning, growth, and overcoming of obstacles can certainly be reasoned to potentially have positive psychological effects on the viewer.

Objectives and Overview of the Research

The overall aim of this research was to discover whether people are measurably inspired or uplifted by entertainment media. Specifically the study measures whether 'positive' psychological states and traits can be increased by film or literature. I theorize that the process of inspiration is comprised of a number of story-specific factors, such as having a protagonist who overcomes obstacles, takes control of their life, and is rewarded for doing so; and of audience-specific factors, such as identification with the protagonist (which is partially dependent upon transportation into the film). The film and novella were chosen based on those story-specific factors and the audience-specific factors were measured.

In examining changes in 'positive' psychological traits, the research focuses on six psychological constructs for which a change in a particular direction could represent a positive effect. These are: an increase in internal locus of control, an increase in self-esteem, an increase in self-efficacy, an increase in hope, an increase in mood or affect, and an increase in cognitive task performance. The construct mood is comprised of

positive affect and negative affect, such that either an increase in positive affect or a decrease in negative affect would represent an increase in mood.

These extensively studied psychological constructs have been shown to be correlated with various seemingly positive attributes which most would do well to increase, including higher socio-economic status (Twenge & Cambell, 2002), increased helping behaviour (Carlson, Charlin, & Miller, 1988), health and health related behaviour and lessened illness susceptibility (Strickland, 1978; Wallston, Wallston, & DeVellis, 1978), job satisfaction and performance (Judge & Bono, 2001), and being higher up in organizational structures (Mamlin, Harris, & Case, 2001).

If a popular novel or film can lead to positive effects, this may contribute to explaining why it is that our society craves and rewards such entertainment. It will also further the overall understanding of the media's impact on human behaviour to know whether some types of media do have positive psychological effects and through what mechanisms. In this case we may wish to propitiously choose and encourage, as individuals or as a society, entertainment media that will have positive effects on our psychology.

Two studies were conducted. In the first study, at Time 1, participants completed baseline measures of locus of control, self-esteem, self-efficacy, hope, and cognitive task performance. Within the same study, two weeks later, at Time 2, the same participants returned and completed a measure of mood, then watched an uplifting film, then completed all of the measures (including mood) a second time as well as measures of identification and transportation. In this manner, differences in the measures from pre-exposure to post-exposure, and their prediction by identification and transportation, were

used to determine whether an inspiring film could lead to changes in an individual's psychology. The second study followed a similar process as the first, but used an inspiring text-based narrative instead of a film and measures were modified based on applicability to the narrative and lessons learned from the first study. The second study explored the role of identification and perspective-taking as predictors of some of the effects found in Study 1.

Study 1

Hypotheses

Hypothesis 1: Viewing a film in which the main protagonist experiences personal growth will lead to an increase in internal locus of control, self-esteem, self-efficacy, hope, and positive affect, and a decrease in negative affect.

Hypothesis 2: Viewing a film with a highly intelligent protagonist will lead to an increase in cognitive task performance.

Hypothesis 3: These increases in positive psychological states and traits, as well as in cognitive task performance, will be predicted by the extent to which participants identify with the relevant protagonist and are transported into the film such that participants experiencing stronger identification and transportation will show an increase in positive psychological states and traits.

Hypothesis 4: Identifying with a protagonist not experiencing personal growth and who is not highly intelligent will predict a decrease in internal locus of control, self-esteem, self-efficacy, hope, positive affect, and cognitive task performance, and an increase in negative affect.

Participants

One-hundred and twenty-seven undergraduate students (87 females and 47 males) at a Canadian University participated in the study for course credit. The mean age was 19 (SD=1.65). The data from three participants were dropped from the sample as they had failed to complete 10 items or more, which suggests inattention and did not allow an accurate tally of their survey scores.

Design

A one-way (identification with protagonist A x identification with protagonist B x no identification) repeated measures design was employed. At Time 2, participants were randomly assigned to a manipulation condition telling them which protagonist to identify with, if any. The dependent variables were Time 2 scores of locus of control, self-esteem, self-efficacy, hope, mood and cognitive task performance. Anticipated predictors of the dependent variables at Time 2 were identification with the protagonists of the film, the interaction of the identification scores for the two protagonists, and transportation. Predictive ability was assessed using a general linear model analysis. Sex of participants was also included in analyses as an exploratory factor to determine whether males and females differentially experienced inspiration or positive effects. The question of sex differences is drawn from research on empathy and identification differences. Women have been shown to be more empathetic than men in some research (Mehrabian & Epstein, 1972). The applicability of these findings to entertainment media is of interest, to determine how the sexes may react or be affected differently.

Procedure

Participants were run in two separate sessions, in groups of 75 and 52. The consent form was designed to mask the study's purpose to avoid the possibility of demand effects; participants were told that the study examined "Professional versus Student Film Ratings and Approaches". A baseline measure of locus of control, self-esteem, self-efficacy, hope and cognitive task performance was obtained, using pen and paper surveys, in the first session (Time 1). The researcher then brought the same participants back for a second session in the same room, at the same time of day, two weeks later. At Time 2, participants completed one pen and paper survey (mood) and were given an instruction sheet with one of three instructions designed to manipulate which character of the film they identified with. The three different versions were distributed randomly to participants and instructed them to identify with one of the two main characters or simply to watch the film as they normally would. The instruction sheets are presented in Appendix A. Participants then watched an uplifting film. Following the film, participants filled out the locus of control, self-esteem, self-efficacy, hope, cognitive task performance, and mood surveys a second time. They also completed surveys measuring identification and transportation.

Materials

The inspirational film. The film used was *Good Will Hunting* (1999). The choice was based on pre-testing of 49 films. The films used in the pre-testing were chosen based on being considered 'the most inspirational' in a popular Internet survey (American Film Institute, 2006), and fitting within the time constraints of the study. The pre-testing used 79 participants and established *Good Will Hunting* as the third most inspirational film, the

fourth most involving or transporting film, and the third most enjoyed film. The chosen film had additional advantages as well; it has two protagonists, one who stagnates in terms of personal growth throughout the film (*Chucky*, played by Ben Affleck) and one who overcomes obstacles and experiences personal growth (*Will*, played by Matt Damon). As such, identification with each was measured as a manipulation check, which allowed the study to determine if participants identifying with a protagonist experiencing personal growth leads to positive changes in psychological traits, contrasted against participants identifying with a protagonist not experiencing personal growth. Another advantage of the chosen film is that the main character *Will* is a genius, allowing a measurement of whether identification with a fictional genius enhances cognitive task performance.

Measures

Ideally, we would like to know participants' scores on locus of control, self-esteem, self-efficacy, and hope immediately prior to and immediately following the film, to increase the likelihood that any changes observed are due to the film. However, testing all of these constructs before and after the film would have made for a very long study in which fatigue and remembering previous item answers may have diminished any measurable changes. As such, some of the measures including locus of control, self-esteem, self-efficacy, and hope were tested two weeks prior to the film and again immediately following the film. While events in each participant's life in the two weeks inside the two studies would likely create statistical 'noise' or variance in the score differences, it is unlikely that there were any events inside those two weeks that would change all participant scores distinctly in one direction or the other. Also, dependent

variables are expected to vary as a function of identification, such that overall changes could be examined in terms of whether a greater change took place when identification was greater. As such, although the surveys measured how participants were feeling at the moment they were filling out the surveys, statistically significant measurable changes across the participant sample related to identification with a character are interpreted as being due to the film. Observed changes on traits such as locus of control, self-esteem, self-efficacy, hope, and cognitive task performance would give particularly strong evidence that entertainment media can change our personality characteristics to some degree. The constructs measured and their scales are described below.

Locus of control. Rotter's (1966) Locus of Control Scale is a 29-item questionnaire that measures the degree to which an individual feels that internal vs. external control is affecting their life. Rotter indicates in the scale description that "Individuals whose scores reflect more 'Internal' control feel that they are the in control and are the masters of their destiny. Those whose scores reflect more of an 'External' focus feel that most things happen by chance, luck, other peoples' control, etc." He goes on to say that "Those with a high internal locus of control have better control of their behaviour... they are more likely to assume that their efforts will be successful" (Rotter, 1966, p.3). The scale contains 29 forced-choice items, 23 items measuring Locus of Control expectancies and 6 filler items. Each item forces a choice between one internal and one external alternative. For example: "Many times I feel that I have little influence over the things that happen to me" (external) or "It is impossible for me to believe that chance or luck plays an important role in my life" (internal). The total number of external choices yields a maximum score of 2. Traditionally higher scores indicate a more external

Locus of Control, however in this case the test result is modified such that a higher score represents a more internal locus of control for homogeneity with the other measures in reflecting a positive change with a higher score. Rotter reported internal consistency Cronbach's alpha coefficients ranging from .65 to .79. The alpha coefficient observed from the sample used in this study was .62. A copy of this scale can be found in Appendix B.

Self-esteem. Heatherton and Polivy's (1991) State Self-Esteem Scale is a twenty-item questionnaire that measures short-lived changes in self-esteem. Seven of the items are positive statements, for example "I feel confident about my abilities" or "I feel that others respect and admire me". These items are completed on a Likert-scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Thirteen of the items are negative statements, for example "I feel self-conscious" or "I am worried about whether I am regarded as a success or failure", which are reverse scored. A high score (maximum = 80) indicates high self-esteem and a low score (minimum = 20) indicates low self-esteem. The scale was designed with questions measuring performance self-esteem, social self-esteem, and appearance self-esteem, however these factors were not significantly differentiated in the data (analyzing the components separately produced similar results) and as such the overall scale was used. Heatherton and Polivy (1991) have shown internal consistency reporting a Cronbach's alpha coefficient of .92. The alpha coefficient observed from the sample used in this study was .85. A copy of the scale can be found in Appendix C.

Hope. The Hope Scale (Snyder et al., 1991) is a twelve-item questionnaire with four distracter questions. The creators of the scale define hope as having two components: 1) Belief in one's capacity to initiate and sustain actions to reach goals, often called 'pathways', and 2) Belief in one's capacity to generate pathways to reach goals, often called 'agency'. Hope Scale items measuring the former (pathways) include "I energetically pursue my goals" or "Even when others get discouraged, I know I can find a way to solve the problem". Hope Scale items measuring the latter (agency) include "There are lots of ways around any problem" or "I can think of many ways to get out of a jam". Items are rated from 1, "strongly disagree" to 4, "strongly agree" for a maximum score of 32 (high hope) and a minimum score of 8 (low hope). In the current research, pathways versus agency scales were indistinguishable statistically and as such the overall scale is used. Snyder et al. report internal consistency with Cronbach's alphas ranging from .74 to .84. The alpha coefficient observed from the sample used in this study was .77. A copy of the scale can be found in Appendix D.

Self-efficacy. The General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) is a 10-item questionnaire. The scale measures positive self-beliefs that act as protectors against the potential negative impact of difficult demands in life. Sample items from the scale include "Thanks to my resourcefulness, I know how to handle unforeseen situations", and "When I am confronted with a problem, I can usually find several solutions". Items are rated from 1, "strongly disagree" to 4, "strongly agree" for a maximum score of 40 (high self-efficacy) and a minimum score of 10 (low self-efficacy). Schwarzer and Jerusalem report internal consistencies ranging from alpha .76 to .90

based on samples in 23 countries. The alpha coefficient observed from the sample used in this study was .75. A copy of the scale can be found in Appendix E.

Mood. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is a measure of mood. The PANAS was administered immediately before and after the film. While the other tested constructs were measured two weeks prior to the film, PANAS scores are state-based in nature and scores from two weeks prior would theoretically fluctuate greatly compared to scores the day of the film dependent upon events affecting the lives of each participant at each testing date. However, scores before and after the film should be unaffected by external events, given that events in the lives of each participant are the same before and after the film. Therefore changes are more likely to be due to the influence of the film. The PANAS consists of two 10-item scales. One measures positive affect by having participants rate, on a five-point scale, the extent to which they feel, for example, alert, active, and enthusiastic. Higher scores indicated higher positive affect. The other measures negative affect by having participants rate, on a five-point scale, the extent to which they feel, for example, anger, fear, and disgust. Higher scores, in this case, represent higher negative affect. An overall mood score is calculated based on subtracting negative affect from positive affect, on the overall scale (Mood) higher scores represent elevated mood. In this study the two subscales are used both together, for a measure of overall mood, and separately, to identify the specific component of mood being affected. The creators of the scale report internal consistencies between $\alpha = .84$ and $.90$. The alpha coefficient observed from the sample used in this study was, for overall mood, .88; for positive affect, .91; and for negative affect, .83. A copy of the scale can be found in Appendix F.

Cognitive task ability. A set of 16 items from Section II of the Law School Admissions Test was used to assess cognitive task ability. These items were chosen for their similarity to those used in Galinsky, Wang, and Ku's (2005) experiment, which found that cognitive task ability could be affected by identification with a seemingly intelligent fictional character. These questions, often called 'logic games' or 'analytical reasoning' present a challenging logic problem requiring mathematical skill, reasoning, and creativity to solve. This test also seemed fitting as the questions seem to be the type that the fictional character from the film, *Will*, would have no problem with but that *Chucky* would have great difficulty solving. As such, it can be determined whether identification with *Will* versus *Chucky* relates to cognitive task ability. An example of one of the test questions is:

A jeweler makes a single strand of beads by threading onto a string in a single direction from a clasp a series of solid coloured beads. Each bead is either green, orange, purple, red, or yellow. The resulting strand satisfies the following specifications: If a purple bead is adjacent to a yellow bead, any bead that immediately follows and any bead that immediately precedes that pair must be red. Any pair of beads adjacent to each other that are the same colour as each other must be green. No orange bead can be adjacent to any red bead. Any portion of the strand containing eight consecutive beads must include at least one bead of each colour.

This scenario is followed by a series of multiple-choice questions with five options, such as: "If the strand has exactly eight beads, which one of the following is an acceptable order, starting from the clasp, for the eight beads? (A) green, red, purple, yellow, red, orange, green, purple (B)..." Participants are awarded one point for each

correct answer allowing a maximum score of 12 (high cognitive-task ability) and a minimum of 0 (low cognitive-task ability). Two different versions of the test were assigned randomly to the participants at Time 1. The version not given to each participant at Time 1 was given at Time 2. A copy of the measure can be found in Appendix G.

Identification. To measure identification as a manipulation check, items were created and applied to both main characters. They were worded as follows: “I felt a strong sense of Identification with *Will*”, “My emotions during the film were similar to those of *Will*”, and “I did not care about what happened to *Will*” (reverse scored). Results from this study will report identification as the combination of scores on these three items, ranked from 1 (strongly disagree) to 4 (strongly agree). A reliability analysis was conducted, providing a Cronbach’s alpha of .52 (N=124) for the items pertaining to *Will* and of .51 (N=126) for the items pertaining to *Chucky*. The low alphas may exist because the three items measure, from a face validity point of view, different aspects of identification. The first question is general, the second relates to emotional empathy, and the third relates to interest or affection. Despite the low reliability of the measures, interesting effects were found related to identification’s predictive ability in Study 1. A factor analysis was run to determine whether these identification items differentiated from items on the Transportation Scale, which revealed promising, but inconclusive results (due to a small sample size) suggesting that these items differentiated from the overall transportation scale. The questions used to measure identification in Study 1 can be found in Appendix H (items 12, 14, 15, 16, 17, 18).

Transportation. The Transportation Scale (Green & Brock, 2000) is an 11-item scale measuring absorption into a story. The scale was originally developed for narratives and was modified for use with the film, justified by the original authors' statement that transportation theory applies equally to narratives, recordings, or audio-visual formats. Items such as "I was mentally involved in the film while watching it" assess the extent to which a viewer experiences imagery, affect, and attentional focus. The scale contains eleven items measuring transportation into the story, three of which are reverse scored, such as "I found my mind wandering while watching the film". Each item is ranked by participants on a 4-point Likert scale ranging from 1, "strongly disagree", to 4, "strongly agree", for a maximum score of 44 (high transportation) and a minimum score of 11 (low transportation). The authors of the scale also support one of the hypotheses of this study in stating that "transportation is likely to create strong feelings toward story characters; the experiences or beliefs of those characters may then have an enhanced influence on readers' beliefs" (p. 702). This statement, in other words, suggests that transportation may enhance identification, which may then influence viewers. The creators of the scale report internal consistencies of $\alpha > .65$. The alpha coefficient observed from the sample used in this study was .75. A copy of the scale can be found in Appendix H (items 1-11). For learning from a protagonist to take place, according to social learning theory, the learner must identify with the role model, and the learner must be attentive to the story in order to identify with the role model. As such there is some overlap between these constructs. Adding transportation to the model, however, will show whether being absorbed in the story adds predictive ability to the model beyond identification.

Transportation did correlate significantly with both identification with *Will*, $r(125) = .38$, $p < .01$, and with *Chucky*, $r(126) = .40$, $p < .05$

Results

Hypotheses for Study 1 were that the film would effect changes in locus of control, self-esteem, self-efficacy, positive affect, negative affect, and cognitive task performance, predicted by the extent to which participants identified with a particular character and the extent to which participants were transported into the film. In order to assess this, first paired-sample t-tests were run on the positive psychological traits to measure whether the film had any significant effects independent of identification or transportation. Second, an analysis of variance was run on the three identification groups (instructions: 1. Identify with Will, 2. Identify with Chucky, 3. No specific instruction) to determine whether the identification manipulation affected changes in positive psychological states and traits. Finally, multiple General Linear Model analyses were used to determine whether identification or transportation added predictive ability to the regression equation predicting changes in the positive psychological state and trait measures. Sex of the participants was included in the analysis as an exploratory factor.

Paired-Sample Comparison of Means

Paired-sample comparisons (t-tests) were used to examine simple effects of viewing the film without factoring in predictor (identification and transportation) effects. A repeated measures t-test was run on Time 1 and Time 2 scores of each of the positive psychological traits to determine if watching the film had any overall effects unrelated to the hypothesized predictors. Mood increased significantly through changes in its components: positive affect and negative affect. Positive affect increased significantly

from before the film to after the film, $t(1,123) = 2.12, p < .05$ (Pre-film, $M = 28.74$, $SD = 7.55$; Post-film, $M = 30.20$, $SD = 8.39$), and negative affect decreased significantly from before the film to after the film, $t(1,123) = -4.36, p < .001$ (Pre-film, $M = 14.87$, $SD = 5.45$; Post-film, $M = 13.20$, $SD = 4.50$). The other variables (locus of control, self-esteem, self-efficacy, hope, and cognitive task performance) did not change significantly. Descriptive statistics for all dependent variables can be found in Table 1-1.

Table 1-1

Descriptive Statistics for Dependent Variables and Predictors

	Whole Sample N=127		Females N=87		Males N=40	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Locus of Control Time 2	11.75	3.25	11.83	3.51	11.58	2.64
Locus of Control Time 1	11.67	3.76	11.90	3.65	11.18	4.00
Self Esteem Time 2	30.89	4.04	30.69	4.38	31.33	3.17
Self Esteem Time 1	30.38	3.76	30.28	3.73	30.60	3.85
Hope Time 2	24.94	3.07	24.77	3.14	25.30	2.92
Hope Time 1	24.57	3.03	24.55	2.89	24.63	3.36
Self-Efficacy Time 2	56.80	9.03	55.82	8.91	58.95	9.03
Self-Efficacy Time 1	56.09	7.68	55.47	7.80	57.45	7.32
Mood Post-Film	17.10	9.14	15.87	8.96	19.75	9.06
Mood Pre-Film	13.98	9.06	12.72	8.90	16.84	8.88
Positive Affect Post-Film	30.20	8.36	29.16	8.46	32.48	7.73
Positive Affect Pre-Film	28.74	7.55	27.72	7.35	31.00	7.59
Negative Affect Post-Film	13.24	4.50	13.47	5.01	12.73	3.12
Negative Affect Pre-Film	14.87	5.45	15.00	5.23	14.59	5.96
Cognitive Task Perf. Time 2	3.32	2.30	3.28	2.36	3.40	2.18
Cognitive Task Perf. Time 1	4.20	2.53	3.98	2.59	4.68	2.35
Identification with Will	5.92	2.01	5.94	2.08	5.88	1.86
Identification with Chucky	4.83	1.16	4.95	1.02	4.58	1.48
Transportation	30.58	4.43	30.14	4.51	31.55	4.27

Identification Manipulation

The study aimed to manipulate which protagonist participants identified with by giving an instruction at the beginning of the film. The instructions asked participants to attempt to identify with *Will*, *Chucky*, or simply to watch the film. It was hypothesized that manipulated identification with *Will* would lead to an increase in the positive psychological traits and states being used as dependent variables, that manipulated identification with *Chucky* would lead to a decrease in the positive psychological traits being used as dependent variables, and that no specific instruction would provide a control group against which the experimentally manipulated groups would contrast.

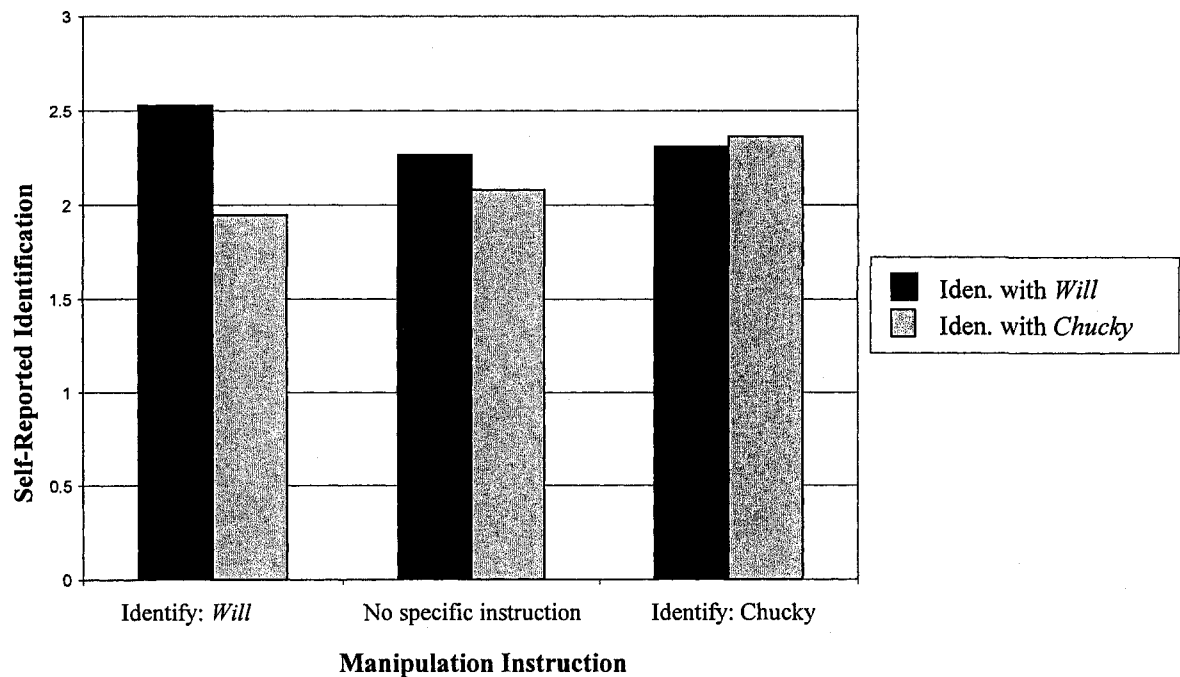
Analyses of variance and manipulation check items were used to determine whether the manipulation had the anticipated effect on any of the dependent variables: the score used was change in the dependent variable from Time 1 to Time 2. These analyses did not yield significant results. Relevant statistics are provided in Table 1-2. As a manipulation check, reported identification with each protagonist was compared with the identification group (*Will*, *Chucky*, or neither) to which participants were assigned. This analysis, charted in Figure 1-1, revealed weak effects on actual identification, which may have been partially induced by good-subjects effects wherein participants report identifying with the character they were told to identify with. As such, the manipulation portion of the study was unsuccessful. However analyses of self-reported identification and transportation as predictors of changes in the positive psychological traits do reveal interesting findings.

Table 1-2

Results of Analyses of Variance Comparing Manipulation Groups

	Identify with <i>Will</i>			Identify with <i>Chuck</i>			No specific Instruction			ANOVA result
	N	Mean	St. Dev.	N	Mean	St. Dev.	N	Mean	St. Dev.	
Locus of Control at Time 1	41	11.86	3.25	42	11.83	3.13	41	11.54	3.45	F[2,121] = 0.05, p = 0.95
Locus of Control at Time 2	41	11.68	3.71	42	11.83	3.64	41	11.49	4.01	
Self Esteem at Time 1	41	31.43	3.25	42	31.1	4.1	41	30.1	4.67	F[2,121] = 0.03, p = 0.97
Self Esteem at Time 2	41	30.95	3.49	42	30.52	3.67	41	29.61	4.07	
Hope at Time 1	41	25.45	2.65	42	25.31	2.91	41	24	3.48	F[2,121] = 0.22, p = 0.81
Hope at Time 2	41	24.93	2.93	42	24.95	3.08	41	23.8	3.01	
Self-Efficacy at Time 1	41	58.32	8.82	42	56.9	7.38	41	55.07	10.57	F[2,121] = 0.42, p = 0.66
Self-Efficacy at Time 2	41	56.91	6.98	42	56.62	6.92	41	54.68	9.02	
Mood Pre-Film	41	15	9.15	42	13.63	8.52	41	13.24	9.59	F[2,121] = 0.36, p = 0.70
Mood Post-Film	41	18.16	7.74	42	17.45	9.2	41	15.63	10.38	
Positive Affect Pre-Film	41	29.88	7.64	42	28.12	8.12	41	28.17	6.88	F[2,121] = 0.89, p = 0.42
Positive Affect Post-Film	41	31.18	8.24	42	28.83	8.67	41	30.52	8.19	
Negative Affect Pre-Film	41	14.88	5.7	42	14.86	4.86	41	14.88	5.86	F[2,121] = 0.07, p = 0.93
Negative Affect Post-Film	41	13.43	5.82	42	13.07	3.94	41	13.2	3.38	
Cog. Task Perf. At Time 1	41	4.63	2.51	42	3.86	2.43	41	4.1	2.64	F[2,121] = 0.34, p = 0.71
Cog. Task Perf. At Time 2	41	3.53	2.32	42	3.36	2.3	41	3.05	2.3	

Figure 1-1. Identification with *Will* or *Chucky* according to manipulation group.



Analyses of Variance

Analyses of variance were conducted on each of the dependent variables independently, using General Linear Model procedures in SPSS. Participant scores at Time 2 (after the film) on each of the positive psychological states or traits were used as the dependent variable in each analysis. Between-subject predictors of that dependent variable, for each analysis, included Time 1 of the positive psychological state or trait of interest, identification with *Will*, identification with *Chucky*, transportation, and as exploratory factors, sex and interactions of sex with identification with *Will*, of sex with identification with *Chucky*, and of sex with transportation. All scores were centered prior to analysis. Entering the Time 1 score (pre-film) of each positive psychological state or trait into the model causes this measure to accumulate all the variance that can be attributed to individual differences in the positive psychological state or trait, leaving

additional variance to be predicted by the remainder of the model. As such, this predictor is expected to be significant in each analysis, although it is the significance of the other predictors that is of interest. A summary table displaying significant results is shown in Table 1-3. Detailed analyses of each of the dependent variables follow.

Table 1-3

Summary Table Displaying Significant Results

	Locus of Control	Self-Esteem	Hope	Self-Efficacy	Mood	Positive Affect	Negative Affect	Cognitive Task Perf.
Identification with Will	*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Identification with Chucky	n.s.	*	*	n.s.	n.s.	n.s.	n.s.	n.s.
Transportation	***	*	*	n.s.	***	***	n.s.	n.s.
Sex	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Sex x Identification with Will	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Sex x Identification with Chucky	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Sex x Transportation	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Dependent Variable at Time 1	***	***	***	***	***	***	***	n.s.

n.s. = non-significant prediction, * $p < .05$, ** $p < .01$, *** $p < .001$

Locus of control. An analysis of variance with locus of control at Time 2 as the dependent variable revealed that identification with *Will* and transportation were both, as hypothesized, significant predictors. This result is displayed in Table 1-4. Neither identification with *Chucky*, nor the exploratory variable sex or its interactions, were significant.

Table 1-4

Analysis of Variance for Locus of Control at Time 2

Source	<i>df</i>	F	<i>p</i>
Identification with Will	1	3.76*	= .05
Identification with Chucky	1	0.79	= .38
Transportation	1	8.77***	< .001
Sex	1	0.68	= .41
Sex x Identification with Will	1	0.80	= .37
Sex x Identification with Chucky	1	0.18	= .67
Sex x Transportation	1	1.66	= .20
Locus of Control at Time 1	1	112.12***	< .001
error	115	(6.91)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Self-esteem. An analysis of variance with self-esteem at Time 2 as the dependent variable showed identification with Chucky and transportation to be significant predictors of increased self-esteem (Table 1-5). Interestingly, it is contrary to the hypotheses that an increase in identification with *Chucky* predicts an increase in self-esteem. Identification with *Will*, as well as sex or the interaction of sex with the other predictors, were not significant as predictors.

While it was hypothesized that identification with the protagonist experiencing personal growth throughout the course of the film would predict an increase in participant self-esteem, there is also an argument supporting identification with *Chucky* predicting

the dependent variable. While *Chucky* is the less intellectually capable of the two protagonists and shows less promise than *Will*, *Chucky* is happy with himself throughout the film while *Will* is mostly unhappy with himself. *Will* only takes steps toward his happiness (experiencing growth) toward the end of the film. As such it could be argued that *Chucky* had steady high self-esteem throughout while *Will* only gains it toward the end, making it reasonable that identifying with *Chucky* predicts higher self-esteem.

Table 1-5

Analysis of Variance for Self-Esteem at Time 2

Source	df	F	p
Identification with Will	1	0.07	= .80
Identification with Chucky	1	5.71*	= .02
Transportation	1	5.28*	= .02
Sex	1	0.06	= .80
Sex x Identification with Will	1	0.02	= .88
Sex x Identification with Chucky	1	1.26	= .26
Sex x Transportation	1	1.99	= .16
Self-Esteem at Time 1	1	65.39***	< .001
error	115	(8.96)	

Note: The value enclosed in parentheses represents mean square error.

* p < .05. ** p < .01. *** p < .001.

Hope. An analysis of variance with hope at Time 2 as the dependent variable, similar to self-esteem, showed identification with *Chucky* and transportation to be significant predictors of increased hope (Table 1-6). Identification with *Will*, as well as sex or the interaction of sex with the other predictors, were not significant predictors.

Hope, as a construct, was grouped with the other dependent variables as a positive psychological trait and it was hypothesized that identification with the protagonist experiencing personal growth (*Will*) would predict an increase in hope. Although *Will*'s character grows throughout the film and *Chucky*'s character does not, in the story *Chucky*'s character has hope for *Will*'s future when *Will* does not. As such it is possible that identifying with *Chucky* may lead to taking on a trait of that character, which conforms to the logic behind the study despite not being in line with the hypotheses.

Table 1-6

Analysis of Variance for Hope at Time 2

Source	<i>df</i>	F	<i>p</i>
Identification with Will	1	0.90	= .34
Identification with Chucky	1	4.38*	= .04
Transportation	1	4.74*	= .03
Sex	1	0.02	= .89
Sex x Identification with Will	1	0.07	= .79
Sex x Identification with Chucky	1	2.14	= .15
Sex x Transportation	1	0.04	= .84
Hope at Time 1	1	89.26***	< .001
error	115	(5.10)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Self-efficacy. An analysis of variance run on self-efficacy showed the Time 1 score to be the only significant predictor. The results are shown in Table 1-7.

Table 1-7

Analysis of Variance for Self-Efficacy at Time 2

Source	df	F	p
Identification with Will	1	0.79	= .38
Identification with Chucky	1	1.41	= .24
Transportation	1	0.47	= .49
Sex	1	0.02	= .90
Sex x Identification with Will	1	2.67	= .11
Sex x Identification with Chucky	1	3.30	= .07
Sex x Transportation	1	1.01	= .32
Self-Efficacy at Time 1	1	148.10***	< .001
error	115	(25.25)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Mood. An analysis of variance on the overall measure of mood (PANAS) showed transportation to be a predictor of increase in mood, and the only significant predictor apart from mood prior to the film (Table 1-8). This may suggest that the chosen media improves affect not as a result of identification with a particular protagonist but simply as a result of being a distraction or drawing viewers into a story. Subsequent analyses of the sub-components of the PANAS measure: positive affect and negative affect, may reveal whether the effect is one of increasing positive affect or of decreasing negative affect.

Table 1-8

Analysis of Variance for Mood Post-Film

Source	<i>df</i>	F	<i>p</i>
Identification with Will	1	0.07	= .79
Identification with Chucky	1	1.78	= .19
Transportation	1	19.75***	< .001
Sex	1	0.69	= .41
Sex x Identification with Will	1	1.21	= .27
Sex x Identification with Chucky	1	1.18	= .28
Sex x Transportation	1	2.07	= .15
Mood Pre-Film	1	43.67***	< .001
error	115	(44.26)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Positive Affect: An analysis of variance on positive affect reveals the same results as the analysis of overall mood: transportation into the film is a significant predictor of increased positive affect (Table 1-9). This would suggest that being drawn into the film has tangible positive effects on mood. The reasons behind this effects can only be speculated at this point, however being involved in a story of personal growth with a happy ending would seem to be a reasonable candidate.

Table 1-9

Analysis of Variance for Positive Affect Post-Film

Source	<i>df</i>	F	<i>p</i>
Identification with Will	1	0.64	= 0.42
Identification with Chucky	1	0.88	= 0.35
Transportation	1	20.59***	< .001
Sex	1	0.11	= 0.74
Sex x Identification with Will	1	0.58	= 0.45
Sex x Identification with Chucky	1	2.50	= 0.12
Sex x Transportation	1	0.32	= 0.57
Positive Affect Pre-Film	1	41.48***	< .001
error	115	(38.98)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Negative Affect: An analysis of variance on negative affect shows measurement prior to the film to be the only significant predictor (Table 1-10). The non-significance of transportation in this analysis, contrasted against the significance of transportation in predicting positive affect and overall mood, is of interest because it excludes certain explanations for why overall mood was increased. To clarify, hypothetically, if overall mood had increased simply because the film provided a break from participants' strenuous, monotonous, or un-enjoyable regular routine, which led to negative affect, then we would expect a decrease in negative affect post-film. The fact that negative affect did not decrease but instead positive affect increased, reveals that the effect of the film

was one of adding to positive mood, perhaps increasing enjoyment, rather than one of removing negative feelings.

Table 1-10

Analysis of Variance for Negative Affect Post-Film

Source	<i>df</i>	F	<i>p</i>
Identification with Will	1	7.80	= .42
Identification with Chucky	1	5.57	= .49
Transportation	1	1.13	= .76
Sex	1	10.86	= .34
Sex x Identification with Will	1	7.27	= .43
Sex x Identification with Chucky	1	6.86	= .45
Sex x Transportation	1	43.75	= .06
Negative Affect Pre-Film	1	903.08***	< .001
error	115	(11.83)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Cognitive task performance. Analyses of variance of cognitive task performance revealed that none of the anticipated predictors added significance to the equation for the Time 2 score (Table 1-11). This is the first case in which the Time 1 measure does not predict the Time 2 score. Based on observations and comments following the study, I believe that participants were fatigued after the film and surveys and did not put any effort into the measure of cognitive task performance at Time 2. This explanation is corroborated statistically and anecdotally, given the lack of match between Time 1 and

Time 2 scores for each individual, as well as the fact that several participants complained about having another cognitive task measure at the end of their survey booklet.

Table 1-11

Analysis of Variance for Cognitive Task Performance at Time 2

Source	df	F	p
Identification with Will	1	0.18	= .67
Identification with Chucky	1	0.00	= .99
Transportation	1	1.82	= .18
Sex	1	0.02	= .88
Sex x Identification with Will	1	0.43	= .51
Sex x Identification with Chucky	1	0.42	= .52
Sex x Transportation	1	0.05	= .82
Cognitive Task Perf. at Time 1	1	0.02	= .90
error	115	0.18	= .67

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

In Study 1 I expected to find that identification with a highly intelligent protagonist experiencing personal growth in a film would predict an increase in internal locus of control, self-esteem, hope, self-efficacy, mood, and cognitive task performance, relative to identification with a less intelligent protagonist not experiencing personal growth. Transportation was also expected to predict these effects. While the manipulation of identification was unsuccessful and I did not find the anticipated effects on cognitive

task performance or self-efficacy, Study 1 revealed a number of interesting findings in the significance of identification and transportation as predictors of positive change. These shed light on the ability of entertainment media to change our psychological states and traits. These also present interesting questions for further research.

Exploration of sex differences, and previous research citing that females are more empathetic than males (Mehrabian & Epstein, 1972), was not supported by the analyses of variance. These revealed no significant differences in identification with either protagonist or transportation into the film between sexes. This may be partially due to unequal sample sizes and the low number of male participants, however there were marginal effects which suggest that further research may uncover more conclusive findings. Thus it seems worthwhile to continue to include sex as an exploratory factor in Study 2.

Transportation added significant predictive ability to the model for locus of control, self-esteem, hope, mood, and positive affect. This suggests that transportation into the film is an important factor for changes in psychological states and traits. There is some overlap, in this sample, between transportation and identification, shown by the fact that transportation correlated significantly with both identification with *Will* and identification with *Chucky*. This is to be expected as the authors of the transportation scale suggested that transportation may enhance identification (Green & Brock, 2000). It is also reasonable however, that identification with a character may enhance transportation into entertainment media. While the direction of the enhancement can not be made certain at this point, what does seem to be clear is that both are important parts of a film leading to positive psychological effects.

The manipulation of identification with protagonists through randomly assigned instructions, asking participants either to identify with *Will*, identify with *Chucky*, or simply to watch the movie as they normally would, was unsuccessful. Identification with assigned protagonists was only marginally increased and there were no significant effects on the dependent variables. In retrospect, a stronger manipulation, such as pausing the movie at intervals and having participants, at each pause, write what they are feeling as their assigned protagonist, could have enhanced identification. Although manipulated identification had little effect, measured identification with a protagonist was shown to be an important predictor and may play a critical role in psychological changes that take place in the viewer. Identification predicted changes in multiple dependent variables.

In Study 1, self-esteem and hope showed unanticipated effects. These effects, however, may be explainable based on the protagonists' experiences within the story, in that the distinction between *Will* and *Chucky*'s self-esteem and hope is not clear-cut. A simpler story may provide a cleaner pattern of results. If a story contained one character that experiences an increase in all of the positive psychological traits and states being measured throughout the story, it would be easier to connect positive changes in readers' psychological states and traits to those experienced by the main character.

Study 2

Study 2 used a different story, in the form of a novella with one main protagonist experiencing personal growth, to isolate changes in positive psychological states and traits, and predictors of these changes. The study is similar to Study 1, except that this study does not anticipate any change in cognitive task performance in readers, as the protagonist is not established as one who would perform well or not on a measure of cognitive task performance. Thus, no measure of cognitive task performance was included. Also, an additional measure, perspective-taking, is used to better predict changes in psychological states and traits. While identification items predicted some significant effects in Study 1, the perspective-taking scale offers an established measure of a closely related construct.

Hypotheses

Hypothesis 1: Reading the novella will lead to an increase in internal locus of control, self-esteem, self-efficacy, hope, and mood.

Hypothesis 2: These increases in positive psychological states and traits will be predicted by the extent to which participants are transported into the novella, identify with the protagonist, and take the perspective of the protagonist, such that increased identification, transportation, and perspective-taking will predict increases in the measured positive psychological states and traits.

Participants

One hundred and nine undergraduate students at a Canadian University participated in the study for course credit. The mean age was 19 (SD=1.58). Eighty-seven of the participants were female and 22 were male.

Procedure

The second study was run using a similar procedure to the first. Two separate sessions were run with groups of 45 and 64. Participants completed, in the following order, measures of locus of control, self-esteem, self-efficacy, and hope at Time 1, as well as a measure of perspective-taking. At Time 2, two weeks later, participants returned to the same location at the same time of day and completed a measure of mood. There was no manipulation of identification. Participants then read an inspiring novella that took an average of 40 minutes to complete. After reading the novella, participants completed, in this order, measures of mood, locus of control, self-esteem, self-efficacy, hope, perspective-taking (specific to the novella), identification, and transportation. The novella used had only one main protagonist, and as such only identification with this character was measured in Study 2.

Materials

The inspirational book. The book chosen for this study was *Jonathan Livingston Seagull* by Richard Bach. The book (or novella) is widely cited as one of the most inspirational of all time and spent 38 weeks on the New York Times best-seller list. This qualifies the story as inspirational, but it was also chosen for its brevity. It takes approximately 30-50 minutes to read and was therefore compatible with the study. *Jonathan Livingston Seagull* tells the story of a seagull bored with the continuous struggle for food and mere survival among the flock and looking for a higher meaning to his life. He finds it in flight, flying higher, faster, and more skillfully than any other seagull. This passion takes him to a new plane of existence. Eventually he returns to the flock that outcast him for being different to show them the light so that they too can

experience personal growth. The story is widely accepted as being a metaphor for our own lives, wherein we can experience growth through not settling for mere survival and instead dedicating ourselves to a passion, to growth, and to helping others (Schulman, 2001).

Measures

The measures used in Study 2 are locus of control ($\alpha=.70$), self-esteem ($\alpha=.81$), hope ($\alpha=.87$), self-efficacy ($\alpha=.75$), mood ($\alpha=.87$), transportation ($\alpha=.68$), identification, and perspective-taking. All above-listed measures, except for perspective-taking, are described at length in the Materials section of Study 1. In measuring identification, Study 2 uses only one item from the identification measure used in Study 1, which is “I felt a strong sense of identification with Jonathan Seagull”. This choice is based on the content validity of the single item, as the alpha for the three items used in Study 1 was inadequate for classifying the three items as measures of the same construct in this study. This item is referred to as ‘identification’ in this study.

Perspective-taking. The Interpersonal Reactivity Index (IRI; Davis, 1983) is a self-report measure of perspective-taking with four subscales: fantasy perspective-taking (FPT), cognitive perspective-taking (CPT), empathic concern (EC), and personal distress (PD). The scale was used twice in this study, once two weeks prior to reading the novella and once immediately following reading the novella. The scale was modified for its second use in this study by personalizing the questions to the story (i.e. “I really get involved with the feelings of the characters in a novel” was modified to “I really got involved with the feelings of Jonathan Seagull”). All items except for two very generic statements were modified in such a manner. The scale consists of 28 items, each of which

is rated using a 5 point Likert scale ranging from 1 (Statement describes me: Not at all) to 5 (Statement describes me: Very well). The scale measures at Time 2 were used as a predictor in this study as questions specifically about the novella were deemed to be a more accurate and appropriate measure of perspective-taking concerning the novella. Davis (1980) reports internal consistency alphas ranging from .71 to .77. The alpha coefficient observed from the sample used in this study was .72. The personal distress subscale was left out of the second measurement, as it did not apply to the novel. Based on preliminary analysis, the subscales of the perspective-taking measure did not differentiate from each other sufficiently to justify treating them as separate constructs. Predictions based on the subscales were found to be consistently the same as predictions based on the overall scale¹. Given the statistical relationship between the sub-scales, only the overall IRI is used as a predictor in the reported analyses of variance. The scale is shown in Appendix I.

Results

As in Study 1, paired-sample t-tests were run on the positive psychological traits to measure whether reading the novel corresponded to any significant effects unrelated to identification or perspective-taking. Analyses of variance were again used to determine whether identification, transportation, and perspective-taking added predictive ability to the regression equation.

Paired-sample comparison of means

Paired-sample comparisons revealed that locus of control moved internally to a significant degree, $F(1,108) = 2.51, p < .05$, from Time 1, two weeks before reading the

¹ Correlations between the subscales were all significant, FPT & CPT $r(109) = .45, p < .01$; FPT & EC $r(109) = .80, p < .01$; CPT & EC $r(109) = .49, p < .01$.

novel ($M = 11.94$, $SD = 3.67$) to Time 2, immediately following reading the novel ($M = 12.60$, $SD = 4.20$). The other positive psychological trait scores did not change significantly from Time 1 to Time 2. Descriptive statistics for the sample, shown sorted by sex, by dependent variable, and by predictor are provided in Table 2-1. Although the change in locus of control is not unarguably attributable to the novella as the study is not a true experiment (there is no control group), it is unlikely that an outside event influenced the entire participant sample in the same way, creating an increase in locus of control, inside of the two weeks in between Time 1 and Time 2 of the study.

Table 2-1

Descriptive Statistics for Dependent Variables and Predictors

	Whole Sample, N=109		Females, N=87		Males, N=22	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Locus of Control Time 2	12.60	4.20	12.28	4.42	13.86	2.96
Locus of Control Time 1	11.94	3.67	11.64	3.71	13.09	3.37
Self Esteem Time 2	30.51	3.85	30.56	3.74	30.32	4.35
Self Esteem Time 1	30.60	4.04	30.45	3.86	31.18	4.76
Hope Time 2	24.79	3.23	25.01	3.23	23.91	3.15
Hope Time 1	25.17	3.38	25.31	3.46	24.64	3.06
Self-Efficacy Time 2	58.08	10.11	58.22	10.64	57.55	7.86
Self-Efficacy Time 1	58.03	10.08	58.59	9.87	55.82	10.81
Mood Time 2	12.75	10.02	13.28	10.50	10.68	7.71
Mood Time 1	9.83	9.84	10.43	10.34	7.41	7.85
Positive Affect Post-Film	12.75	10.02	13.28	10.50	10.68	7.71
Positive Affect Pre-Film	10.59	12.15	11.14	12.84	8.41	8.85
Negative Affect Post-Film	13.42	4.07	12.83	3.73	15.77	4.58
Negative Affect Pre-Film	14.89	4.81	14.62	4.50	15.95	5.86
Identification	2.15	0.80	2.16	0.79	2.09	0.87
Perspective-Taking	60.16	13.20	61.09	13.60	56.45	11.00
Transportation	27.20	5.33	27.10	5.53	27.59	4.56

Analyses of Variance

Analyses were run using Time 2 scores of locus of control, self-esteem, hope, self-efficacy, mood, positive affect, and negative affect as dependent variables. Sex differences in reactions to the narrative were of interest, as an exploratory factor, and as such sex and its interaction with the other predictors were again included in the model. A summary of analysis of variance results is provided in Table 2-2. Each dependent variable is then discussed independently.

Table 2-2

Summary Table Displaying Significant Results

	Locus of Control	Self-Esteem	Hope	Self-Efficacy	Mood	Positive Affect	Negative Affect
Identification	<i>n.s.</i>	*	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
Transportation	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	***	***	*
Perspective-Taking	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
Sex	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	***
Sex x Identification	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	*
Sex x Transportation	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
Sex x Perspective-Taking	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
Dependent Variable Baseline	***	***	***	***	***	***	***

n.s. = non-significant prediction, * $p < .05$, ** $p < .01$, *** $p < .001$

Locus of control. An analysis of variance run on locus of control revealed Time 1 scores to be the only significant predictor (Table 2-3). That is, although locus of control increased significantly from Time 1 to Time 2 for the entire sample, as shown in the paired-sample comparison, this increase was not predicted by identification, transportation, perspective-taking, or sex.

Table 2-3

Analysis of Variance for Locus of Control at Time 2

Source	df	F	p
Identification	1	1.81	= .18
Transportation	1	0.09	= .77
Perspective-Taking	1	0.04	= .85
Sex	1	0.02	= .88
Sex x Identification	1	3.59	= .06
Sex x Transportation	1	0.43	= .52
Sex x Perspective-Taking	1	0.42	= .52
Locus of Control at Time 1	1	141.89***	< .001
error	100	(7.51)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Self-esteem. An analysis of variance of self-esteem revealed increased identification with Jonathan Livingston Seagull to be a significant predictor of increased self-esteem, along with the Time 1 score of self-esteem (Table 2-4).

Table 2-4

Analysis of Variance for Self-Esteem at Time 2

Source	<i>df</i>	F	<i>p</i>
Identification	1	5.72*	= .02
Transportation	1	0.04	= .83
Perspective-Taking	1	1.03	= .31
Sex	1	1.58	= .21
Sex x Identification	1	0.57	= .45
Sex x Transportation	1	0.03	= .87
Sex x Perspective-Taking	1	0.91	= .34
Self-Esteem at Time 1	1	144.47***	< .001
error	100	(5.81)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Hope. An analysis of variance on hope shows Time 1 scores to be the only significant predictor (Table 2-5).

Table 2-5

Analysis of Variance for Hope at Time 2

Source	<i>df</i>	F	<i>p</i>
Identification	1	0.83	= .36
Transportation	1	0.01	= .93
Perspective-Taking	1	0.25	= .62
Sex	1	1.41	= .24
Sex x Identification	1	0.00	= .97
Sex x Transportation	1	0.56	= .45
Sex x Perspective-Taking	1	0.88	= .35
Hope at Time 1	1	164.97***	< .001
error	100	(3.88)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Self-efficacy. An analysis of variance run on self-efficacy reveals Time 1 scores as the only significant predictor (Table 2-6).

Table 2-6

Analysis of Variance for Self-Efficacy at Time 2

Source	<i>df</i>	F	<i>p</i>
Identification	1	2.63	= .11
Transportation	1	0.20	= .65
Perspective-Taking	1	2.99	= .09
Sex	1	2.25	= .14
Sex x Identification	1	0.03	= .86
Sex x Transportation	1	0.66	= .42
Sex x Perspective-Taking	1	1.35	= .25
Self-Efficacy at Time 1	1	182.62***	< .001
error	100	(35.35)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Mood. As with the previous study, increased transportation was shown to be a significant predictor of an increase in mood in the analysis of variance. Analysis of the subscales of the PANAS may reveal whether an increase in positive affect or a decrease in negative affect is the prominent factor predicted by transportation into the film. Mood pre-film was also a significant predictor (Table 2-7).

Table 2-7

Analysis of Variance for Mood Post-Film

Source	<i>df</i>	F	<i>p</i>
Identification	1	0.24	= .63
Transportation	1	21.32***	< .001
Perspective-Taking	1	0.32	= .57
Sex	1	1.25	= .27
Sex x Identification	1	0.24	= .63
Sex x Transportation	1	0.27	= .61
Sex x Perspective-Taking	1	0.08	= .78
Mood Pre-Film	1	27.59***	< .001
error	100	(50.95)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Positive Affect. An analysis of variance of positive affect shows increased transportation to be a significant predictor of increased positive affect. Positive affect pre-film was also a significant predictor (Table 2-8).

Table 2-8

Analysis of Variance for Positive Affect Post-Film

Source	<i>df</i>	F	<i>p</i>
Identification	1	0.35	= .56
Transportation	1	28.17***	< .001
Perspective-Taking	1	2.31	= .13
Sex	1	0.36	= .55
Sex x Identification	1	0.01	= .93
Sex x Transportation	1	1.03	= .31
Sex x Perspective-Taking	1	0.68	= .41
Positive Affect Pre-Film	1	83.38***	< .001
error	100	(26.32)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Negative Affect. An analysis of variance of negative affect shows transportation to be a significant predictor, along with sex and negative affect pre-film (Table 2-9). The first study showed that being transported into 'positive' entertainment media improved mood via an increase in positive affect as opposed to a decrease in negative affect. In this case, mood was improved through both factors. Also, the significance and direction of sex as a predictor suggests that for females negative affect was decreased to a greater degree than for males. This is confirmed by the differences in means from Time 1 to Time 2 (females – Time 1 $M=14.62$, $SD=4.50$, Time 2 $M=12.83$, $SD=3.73$; males – Time 1 $M=15.59$, $SD=5.86$, Time 2 $M=15.77$, $SD=4.58$).

Table 2-9

Analysis of Variance for Negative Affect Post-Film

Source	<i>df</i>	F	<i>p</i>
Identification	1	0.71	= .40
Transportation	1	5.33*	= .02
Perspective-Taking	1	0.06	= .80
Sex	1	12.62***	< .001
Sex x Identification	1	5.24*	= .02
Sex x Transportation	1	1.35	= .25
Sex x Perspective-Taking	1	1.54	= .22
Negative Affect Pre-Film	1	143.30***	< .001
error	100	(6.05)	

Note: The value enclosed in parentheses represents mean square error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

Most remarkable in this second study is the overall increase in internal locus of control from Time 1 to Time 2 shown in the comparison of means. Although the study was not a true experiment, unless an outside factor influenced the sample's locus of control homogenously for the majority of participants in between Time 1 and Time 2, it can be suggested that reading a novella, independent of identification, perspective-taking, or transportation, may increase internal locus of control.

Results of Study 2 also showed that increased identification with the main character of the novella predicted increased self-esteem, and increased transportation predicted improved mood. The measured changes in the dependent variables can be termed 'positive changes' and suggest that reading an uplifting story can have tangible and measurable effects. These effects, while not uniform across dependent variables or predictors support an argument that uplifting entertainment media may be good for us psychologically.

Study 2 generally supports the conclusions of Study 1 that being transported into a story with a protagonist developing or displaying particular characteristics, and in for some states or traits, identifying with that character, predicts an increase in these characteristics in the reader or viewer. Furthermore, the combination of the two studies shows that these changes are not limited to one form of media, but may take place instead whenever identification and transportation are present. The simpler story of *Jonathan Livingston Seagull*, with one protagonist experiencing and displaying entirely positive growth and personality characteristics, showed some participant states and traits, predicted by theorized factors in the inspiration process, mirroring these changes and

characteristics. Despite not finding as many significant results as in the previous study, the fact that all changes are in the anticipated direction creates a more straightforward set of results.

General Discussion

Summary of Results

Study 1 found an overall increase in positive affect over the course of the film. Although this result is not from an experimental manipulation and can therefore not be causally connected to the film *Good Will Hunting*, the measures of mood were taken immediately prior to and immediately following the film, suggesting that little else could have affected the group of participants uniformly in that time. Study 2 found an overall increase in locus of control from Time 1 to Time 2. Although the lack of a control group, again, means the study is not a true experiment, it is unlikely that any other event uniformly affected the participants in the two-week intermission in between the sessions such that their locus of control, as a group, would increase significantly.

In the analyses of variance, Study 1 found that increased identification with *Will* predicted an increase in internal locus of control, increased identification with *Chucky* predicted an increase in self-esteem and hope, and that increased transportation predicted increased internal locus of control, self-efficacy, hope, and positive affect. Study 2 found that increased identification with *Jonathan Livingston Seagull* predicted an increase in self-esteem and that increased transportation predicted improved mood, as well as that sex and the interaction of sex and identification predicted a decrease in negative affect.

Implications of Findings

Locus of control may be the most studied of any personality characteristic in social psychology and is generally assumed to be stable over time (Phares, 2001). Internal locus of control, synonymous with self-direction or mastery, is a frequently-used indicator of personal coping resources (Thoits, 1995). While locus of control has been seen to change predictably as a result of some major life changes, such as a college education (Wolfe & List, 2004), there is no precedent for a change based on a short story. But why not? We have seen in this research that viewers and readers of entertainment media take on positive psychological states and traits of the protagonists following identification transportation. When a protagonist has life experiences that lead to more internal locus of control, why should readers and viewers not experience the lessons of the protagonist vicariously? It has repeatedly been shown in research that individuals with a more internal locus of control enjoy better health, act more independently, perform better in school, and are less prone to depression than those with a more external locus of control (Lachman & Weaver, 1998; Lefcourt, 1982; Presson & Benassi, 1996). In this manner, promoting a move from external to internal locus of control, inspiring media could lead to substantial positive effects.

Transportation presented itself frequently as a significant predictor of positive outcomes. This offers a convincing reason why entertainment media must be, simply put, entertaining. In order for viewers or readers to experience effects from a story, it can be suggested based on this research that the user must first be substantially drawn into the story. Green and Brock (2000) suggest the following as effects of transportation: that it may reduce negative cognitive responding or enhance story consistent beliefs, that it may

make stories seem more like real experiences, and that it is likely to create strong feelings toward story characters. Each of these effects would conceivably enhance the experience of a story through concentration on the story, such that effects would be amplified, similar to how, for example, a student who is more awake would be more likely to absorb a class or lecture.

The studies presented in this thesis suggest that being transported into a story and identifying with a fictional character can change a person's psychology for the better, possibly through a social learning-type process. Other recent research may offer an alternate or additional explanation. A paper on the self-expansion model of motivation explores and supports the notion that one way in which people seek to increase their potential efficacy is through identification with others (Aron, McLaughlin-Volpe, Mashek, Lewandowski, Wright, & Aron 2004). If locus of control, self-esteem, hope, and mood showed measurable effects related to inspiring entertainment media, there are almost certainly other significant effects taking place through consuming entertainment media that this research did not measure. The media educates us on ideas, topics, lives, and places we would never otherwise touch and arouses thoughts of what may be possible, even if it these possibilities are outside of our grasp for the moment.

The size and growth of the entertainment industry may be related to the psychological effects it provides us in potentially improving our mood and changing our outlook. Consumption of inspiring entertainment media, if it increases mood, internal locus of control, self-esteem, self-efficacy, hope, or other positive personality constructs, could even be thought of as purchasing an unconventional form of psychological treatment. Canada's household spending on entertainment services increased nearly 50%

from 1986 to 1996, with video rentals and movie theatre admissions accounting for over a quarter of this spending in 1996 (Earl, 1999). Overall the film and video wholesaling industry has been growing, from 2000-2005, on average 6% per year. Expenditures in Canada on reading material, excluding textbooks, have also been increasing by 3% per year on average from 2000 to 2005 (Statistics Canada, 2006). If psychological research can isolate the antecedents of positive psychological changes within entertainment media and use these antecedents to promote the effects that media consumers may be looking for, the media could have a more effective, targeted, and understood positive effect on its users.

Inspiration, as a construct, is often thought of as a stimulation to some action which should benefit oneself or others. The impetus gained through this type of inspiration would seem to be, in part, an idea or a concentration of ideas into a solid plan that one can follow; but there is also a sense that one can achieve the plan. Although these studies did not measure whether participants were inspired with any type of plan based on the viewing or reading of uplifting media, it did show that participants, to some extent, exhibited states and traits predicted by identification with the protagonists and transportation. These states and traits would lead to confidence in pursuing such a plan. As such, the concept being measured through all of the dependent variable is perhaps better termed 'generalized inspiration'. A conceptual model, at this point, for increasing generalized inspiration, would involve having an uplifting story with a protagonist who overcomes obstacles and experiences some type of personal growth. The viewer or reader must be transported into the story and identify with the protagonist in order to experience

the positive psychological effects. There are, of course, more factors in the story, the viewer, and the experience that are of interest and these will be discussed at length.

Limitations and Future Directions

The positive psychological changes explored are, however, not yet shown to last beyond the point where an individual leaves the chair they were in for the movie or book. This study did not examine the stability of these results over time, nor how quickly they fade away. There is no certainty that inspiring media has any enduring effect. However, if any effects, even very small ones, from each movie or book endure, these could accumulate over time to a palpable result if entertainment consumers are repeatedly exposed to inspiring stories. Further research isolating these effects and examining their endurance would illuminate the potential of inspiring media to effect lasting change.

There is a suggestion of durability, in fact, in that measures used and findings on those measures represent both positive states and positive traits. Changes taking place in measures of traits should theoretically be more lasting. There is no clear line drawn between state measures and trait measures. If, however, there were a spectrum with diametrical ends representing state and trait, the measures used for mood and self-esteem would be closer to the state end, the measures of self-efficacy and hope would be somewhere in the middle, and the measure of locus of control would be closer to the trait end. The fact that the present studies found some effects on each of these measures is encouraging when considering the durability of found positive effects.

With multiple dependent variables there is an increased risk in this study of Type 1 error, or finding false positives, simply due to the number of analyses. The studies are exploratory in nature, looking into a relatively young field and as such the benefits of

using many measures and many tests can be argued to outweigh the possible drawbacks of false positives. Also, the results of the studies are all in positive direction on the measures, such that no negative effects were found. Negative effects would occur equally as often as positive effects if findings are due to measurement error. Finally, most of the findings were anticipated, and the two that were not support each other and are explainable. Similar to the false positives argument, the large number of dependent variables also presents an argument that this study covers so many constructs, rather than proving one specific hypothesis, that I was bound to find something. I would counter that the benefit of this study lies not in proving anything, but in generating theory and in learning where to look.

Results from this study show identification and transportation to be predictors of some changes in positive psychological traits, but this does not confirm a causal connection between the entertainment media and the change in the positive psychological trait. Causal research could be performed by measuring locus of control at Time 1, then having one group view inspirational media while a control group performs a distracter task, then measuring locus of control again. Findings from such a study would prove more conclusive on this issue. The design above could even extend understanding of entertainment media effects further by measuring task motivation and task performance subsequent to viewing inspirational media, to analyze whether inspiration has an effect on task motivation and performance. This would allow a measurement of whether any inspiration acquired through the story has a tangible result on activity.

The inclusion of sex as an exploratory factor revealed only that females were more likely to experience a decrease in negative affect while reading the novella than

males, and that the interaction of sex and increased identification also predicted a decrease in negative affect. These findings do not offer any substantive conclusions independently but may inform future research, and marginal effects concerning sex suggest that a study focusing on sex differences might reveal interesting findings. This could be further explored through using two stories that are identical, except for half having a male protagonist and half having a female protagonist, randomly distributed to a mixed-sex sample. This would allow a determination of how well males versus females react to same-sex or different-sex protagonists and to what extent identification is mediated by similarity. In such a study, additional measures of empathy would be useful in determining differences in identification processes and understanding how males versus females learn vicariously through media. Other demographic variables would also potentially influence individuals' inspiration through media. A person's social economic status, culture, education level, and age may all play reliable roles in predicting what media content will influence positive changes.

In the present research the items measuring identification were originally designed as a manipulation check. When the manipulation of identification did not prove effective, these items were adapted to fill the purpose of an identification measure. These measures of identification are possibly less reliable and valid than an established measure. For this reason, perspective-taking was used as an additional measure in Study 2. The items in the perspective-taking scale tend to be slightly more involved and complex than those in the other scales used. An item such as "Before criticizing a character's actions I tried to imagine how I would feel in their place", following a long survey with mostly simpler items, might confuse or exhaust a participant. The

perspective-taking scale is most often used in real-life scenarios and the adaptation to fiction, along with the complexity of the scale and fatigue factors, may have limited its utility in this case. The measures of identification used, despite not being established measures, are simple and do have good face and content validity. Future studies concerning media effects would do well to use a measure that is pre-tested or perhaps several measures to allow an examination of the nature of identification with a fictional protagonist by comparing how well different measures of identification predict positive psychological changes.

Finally, while this research concludes that identification and transportation are important elements in increasing positive psychological personality constructs, further research identifying the process through which these positive changes occur would allow effective and efficient use of the media to promote more healthy perspectives. Specifically, knowing what antecedents in a piece of entertainment media are necessary for these changes would be instructive. A study using modified versions of an inspirational film or narrative could shed more light on these antecedents by including or excluding specific sections of the story such as the physical description of the protagonist, the psychological description of the protagonist, the protagonist's history, the description of the challenges the protagonist overcomes, the description of overcoming of those challenges, or the description of the reward that follows.

Conclusion

There are immense challenges facing psychologists and psychiatrists today. Mood disorders have never been so prevalent; depression incidence has risen to 16% of the world's population (Bland, 1997) and is the leading cause of disability in the world

(Murray & Lopez, 1997). Targeted psychiatric and psychological treatments for these ills are becoming more effective but the broader problem of increased mental illness is, none the less, surging (Bland, 1997). A concrete example of how communication can induce positive psychological states and benefit the individual is found in research on humour and medicine. Paralleling the potential impact of inspiration on mental health, humour is now generally accepted as having a positive psychological and sometimes physical impact on health and recovery (Galloway & Cropley, 1999) as well as reducing discomfort in patients (Hudak et al., 1991). The potential of the media in creating positive change has also been seen in other research using much simpler forms of media. Simple games that take less than five minutes to play on the internet have been shown to increase self-efficacy (Baccus, Baldwin, & Packer, 2004). The present study would suggest that entertainment and the psychology of entertainment could be, and already is to some extent, acting as an intervention with small effects acting on a broader basis, not just in one person at a time. The science of psychology can help not only a small number of people in a large way, but potentially, when applied to inspiring media, a large number of people in a small way.

Entertainment media is rapidly becoming an influence that rivals schools and families in terms of the amount of time we spend under its tutelage (Statistics Canada, 2006). Just as we consciously evaluate the influence of schools and families on our development, using psychological research, we should evaluate that of entertainment media. This research has shown that entertainment media can be a force for positive changes in our traits and states. To influence the media to convey more inspiration or other positive messages, which we enjoy anyhow, would be a service to the public.

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Appendix A
Identification Manipulation Instructions

INSTRUCTIONS

Movie critics talk about a variety of ways in which we watch movies, one of which is by identifying with one particular character more than others. In order to test whether this affects our impressions of movies, we have asked other participants to identify with particular characters. However, we need to compare those asked to identify with particular characters against those who simply watch the movie as they normally would. As such, this is what we would like you to do. Do not worry about identifying with any particular character more than others, simply watch the movie as you normally would.

Please do not share these instructions with any other participants.

INSTRUCTIONS

Movie critics talk about a variety of ways in which we watch movies, one of which is by identifying with one particular character more than others. In order to test whether this affects our impressions of movies, we would like you to pay more attention to one character's story than the others while watching a movie. You will be watching the 1997 movie *Good Will Hunting*. Please pay particular attention to the character 'Will', played by Matt Damon. Try to identify with him and understand his perspective on the events that take place. Think about what his life and situation are like and try to walk in his shoes for the duration of the movie.

Please do not share these instructions with any other participants.

INSTRUCTIONS

Movie critics talk about a variety of ways in which we watch movies, one of which is by identifying with one particular character more than others. In order to test whether this affects our impressions of movies, we would like you to pay more attention to one character's story than the others while watching a movie. You will be watching the 1997 movie *Good Will Hunting*. Please pay particular attention to the character 'Chuckie', played by Ben Affleck. Try to identify with him and understand his perspective on the events that take place. Think about what his life and situation are like and try to walk in his shoes for the duration of the movie.

Please do not share these instructions with any other participants.

Appendix B

The Locus of Control Scale

Directions:

Each number below has an “a” part and a “b” statement. Please circle either “a” or “b” depending on which one most accurately reflects your view.

1. a. Children get into trouble because their parents punish them too much.
 b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people’s lives are partly due to bad luck.
 b. People’s misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don’t take enough interest in politics.
 b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.
 b. Unfortunately, an individual’s worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.
 b. Most students don’t realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.
 b. Capable people fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don’t like you.
 b. People who can’t get others to like them don’t understand how to get along with others.
8. a. Heredity plays the major role in determining one’s personality
 b. It is one’s experiences in life which determine what they’re like.
9. a. I have often found that what is going to happen will happen.
 b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
 b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
 b. Getting a good job depends mainly on being in the right place at the right time.
12. a. The average citizen can have an influence in government decisions.
 b. This world is run by the few people in power, and there is not much the little guy can do about it.
13. a. When I make plans, I am almost certain that I can make them work.
 b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. a. There are certain people who are just no good.
 b. There is some good in everybody.

15.
 - a. In my case getting what I want has little or nothing to do with luck.
 - b. Many times we might just as well decide what to do by flipping a coin.
16.
 - a. Who get to be the boss often depends on who was lucky enough to be in the right place first.
 - b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17.
 - a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
 - b. By taking an active part in political and social affairs the people can control world events.
18.
 - a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
 - b. There really is no such thing as "luck."
19.
 - a. One should always be willing to admit mistakes.
 - b. It is usually best to cover up one's mistakes.
20.
 - a. It is hard to know whether or not a person really likes you.
 - b. How many friends you have depends upon how nice a person you are.
21.
 - a. In the long run the bad things that happen to us are balanced by the good ones.
 - b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22.
 - a. With enough effort we can wipe out political corruption.
 - b. It is difficult for people to have much control over the things politicians do in office.
23.
 - a. Sometimes I can't understand how teachers arrive at the grades they give.
 - b. There is a direct connection between how hard I study and the grades I get.
24.
 - a. A good leader expects people to decide for themselves what they should do.
 - b. A good leader makes it clear to everybody what their jobs are.
25.
 - a. Many times I feel that I have little influence over the things that happen to me.
 - b. It is impossible for me to believe that chance or luck plays an important role in my life.
26.
 - a. People are lonely because they don't try to be friendly.
 - b. There's not much use in trying too hard to please people, if they like you, they like you.
27.
 - a. There is too much emphasis on athletics in high school.
 - b. Team sports are an excellent way to build character.
28.
 - a. What happens to me is my own doing.
 - b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29.
 - a. Most of the time I can't understand why politicians behave the way they do.
 - b. In the long run the people are responsible for bad government on a national as well as on a local level.

Appendix C

The State Self-Esteem Scale

Directions:

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you RIGHT NOW. Using the following scale, place a number in the box to the right of the statement that indicates what is true for you at this moment:

		Not at all true	Hardly True	Moderately True	Exactly True
1	I feel confident about my abilities. P	1	2	3	4
2	* I am worried about whether I am regarded as a success or failure. S	1	2	3	4
3	I feel satisfied with the way my body looks right now. A	1	2	3	4
4	* I feel frustrated or rattled about my performance. P	1	2	3	4
5	* I feel that I am having trouble understanding things that I read. P	1	2	3	4
6	I feel that others respect and admire me. A	1	2	3	4
7	* I am dissatisfied with my weight. A	1	2	3	4
8	* I feel self-conscious. S	1	2	3	4
9	I feel as smart as others. P	1	2	3	4
10	* I feel displeased with myself. S	1	2	3	4
11	I feel good about myself. A	1	2	3	4
12	I am pleased with my appearance right now. A	1	2	3	4
13	* I am worried about what other people think of me. S	1	2	3	4
14	I feel confident that I understand things. P	1	2	3	4
15	* I feel inferior to others at this moment. S	1	2	3	4
16	* I feel unattractive. A	1	2	3	4
17	* I feel concerned about the impression I am making. S	1	2	3	4
18	* I feel that I have less scholastic ability right now than others. P	1	2	3	4
19	* I feel like I'm not doing well. P	1	2	3	4
20	* I am worried about looking foolish. S	1	2	3	4

* indicates a reverse-scored item

The letter in the last column indicates the primary factor on which that item loaded in a factor analysis. The three factors were labeled performance self-esteem (P), social self-esteem (S) and appearance self-esteem (A).

Appendix D The Hope Scale

Directions:

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you RIGHT NOW. Using the following scale, place a number in the box to the right of the statement that indicates what is true for you at this moment:

	Not at all true	Hardly True	Moderately True	Exactly True
1. I can think of many ways to get out of a jam.	1	2	3	4
2. I energetically pursue my goals.	1	2	3	4
3. I feel tired most of the time.	1	2	3	4
4. There are lots of ways around any problem.	1	2	3	4
5. I am easily downed in an argument.	1	2	3	4
6. I can think of many ways to get the things in life that are most important to me.	1	2	3	4
7. I worry about my health.	1	2	3	4
8. Even when others get discouraged, I know I can find a way to solve the problem.	1	2	3	4
9. My past experiences have prepared me well for my future.	1	2	3	4
10. I've been pretty successful in life.	1	2	3	4
11. I usually find myself worrying about something.	1	2	3	4
12. I meet the goals that I have set for myself	1	2	3	4

Appendix E

The General Self-Efficacy Scale

Directions:

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you RIGHT NOW. Using the following scale, place a number in the box to the right of the statement that indicates what is true for you at this moment:

		Not at all true	Hardly True	Moderately True	Exactly True
-1.	I can always manage to solve difficult problems if I try hard enough.	1	2	3	4
2.	If someone opposes me, I can find the means and ways to get what I want.	1	2	3	4
-3.	It is easy for me to stick to my aims and accomplish my goals.	1	2	3	4
4.	I am confident that I could deal efficiently with unexpected events.	1	2	3	4
5.	Thanks to my resourcefulness, I know how to handle unforeseen situations.	1	2	3	4
-6.	I can solve most problems if I invest the necessary effort.	1	2	3	4
-7.	I can remain calm when facing difficulties because I can rely on my coping abilities.	1	2	3	4
8.	When I am confronted with a problem, I can usually find several solutions.	1	2	3	4
-9.	If I am in trouble, I can usually think of a solution.	1	2	3	4
10.	I can usually handle whatever comes my way.	1	2	3	4

The symbol (-) prior to the question number indicates a reverse-scored item.

Appendix F

The Positive and Negative Affect Schedule

Directions:

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to the word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

<input type="checkbox"/> interested <input type="checkbox"/> distressed <input type="checkbox"/> excited <input type="checkbox"/> upset <input type="checkbox"/> strong <input type="checkbox"/> guilty <input type="checkbox"/> scared <input type="checkbox"/> hostile <input type="checkbox"/> enthusiastic <input type="checkbox"/> proud	<input type="checkbox"/> irritable <input type="checkbox"/> alert <input type="checkbox"/> ashamed <input type="checkbox"/> inspired <input type="checkbox"/> nervous <input type="checkbox"/> determined <input type="checkbox"/> attentive <input type="checkbox"/> jittery <input type="checkbox"/> active <input type="checkbox"/> afraid
--	--

Appendix G
Section II of the Law School Admissions Test

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may be useful to draw a rough diagram. Circle the response that most accurately and completely answers each question.

Questions 1-5

A jeweller makes a single strand of beads by threading onto a string in a single direction from a clasp a series of solid coloured beads. Each bead is either green, orange, purple, red, or yellow. The resulting strand satisfies the following specifications:

If a purple bead is adjacent to a yellow bead, any bead that immediately follows and any bead that immediately precedes that pair must be red.

Any pair of beads adjacent to each other that are the same colour as each other must be green.

No orange bead can be adjacent to any red bead.

Any portion of the strand containing eight consecutive beads must include at least one bead of each colour.

1. If the strand has exactly eight beads, which one of the following is an acceptable order, starting from the clasp, for the eight beads?

- (1) green, red, purple, yellow, red, orange, green, purple
- (2) orange, yellow, red, red, yellow, purple, red, green
- (3) purple, yellow, red, green, green, orange, yellow, orange
- (4) red, orange, red, yellow, purple, green, yellow, green
- (5) red, yellow, purple, red, green, red, green, green

2. If an orange bead is the fourth bead from the clasp, which one of the following is a pair that could be the second and third beads, respectively?

- (1) green, orange
- (2) green, red
- (3) purple, purple
- (4) yellow, green
- (5) yellow, purple

3. If on an eight-bead strand the second, third, and fourth beads from the clasp are red, green, and yellow, respectively, and the sixth and seventh beads are purple and red, respectively, then which one of the following must be true?

- (1) The first bead is purple.
- (2) The fifth bead is green.
- (3) The fifth bead is orange.
- (4) The eighth bead is orange.
- (5) The eighth bead is yellow.

4. If on a six-bead strand the first and second beads from the clasp are purple and yellow, respectively, then the fifth and sixth beads CANNOT be

- (1) green and orange, respectively
- (2) orange and green, respectively
- (3) orange and yellow, respectively
- (4) purple and orange, respectively
- (5) yellow and purple, respectively

5. If on a nine-bead strand the first and fourth beads from the clasp are purple, and the second and fifth beads are yellow, which one of the following could be true?

- (1) The seventh bead is orange.
- (2) The eighth bead is green.
- (3) The eighth bead is red.
- (4) The ninth bead is red.
- (5) The ninth bead is yellow.

6. If on an eight-bead strand the first, second, third, and fourth beads from the clasp are red, yellow, green, and red, respectively, then the fifth and sixth beads CANNOT be

- (1) green and orange, respectively
- (2) green and purple, respectively
- (3) purple and orange, respectively
- (4) purple and yellow, respectively
- (5) yellow and orange, respectively

Questions 7-12

At an evening concert, a total of six songs—O, P, T, X, Y, and Z—will be performed by three vocalists—George, Helen, and Leslie. The songs will be sung consecutively as solos, and each will be performed exactly once. The following constraints govern the composition of the concert program:

Y must be performed earlier than T and earlier than O.

P must be performed earlier than Z and later than O.

George can perform only X, Y, and Z.

Helen can perform only T, P, and X.

Leslie can perform only O, P, and X.

The vocalist who performs first must be different from the vocalist who performs last.

7. Which one of the following is an acceptable schedule for the performance of the songs, in order from the first to last song performed?

- (1) X, T, Y, O, P, Z
- (2) X, Z, Y, T, O, P
- (3) Y, O, P, X, T, Z
- (4) Y, P, O, Z, T, X
- (5) Y, X, O, P, Z, T

8. Which one of the following must be true about the program?

- (1) George performs X.
- (2) Helen performs O.
- (3) Helen performs T.
- (4) Leslie performs P.
- (5) Leslie performs X.

9. Which one of the following is a complete and accurate list of the songs any one of which could be the last song performed at the concert?

- (1) O, P, Z
- (2) O, T, X
- (3) T, P, Z
- (4) T, X, Z
- (5) X, P, Z

10. If X is performed first, which one of the following must be true?

- (1) X is performed by George.
- (2) X is performed by Helen.
- (3) P is the fourth song performed.
- (4) Y is the second song performed.
- (5) Y is the third song performed.

11. Each of the following is an acceptable schedule for the performance of the songs, in order from the first to last song performed, EXCEPT:

- (1) Y, O, P, T, Z, X
- (2) Y, T, O, P, X, Z
- (3) Y, X, O, P, Z, T
- (4) X, Y, O, P, Z, T
- (5) X, Y, O, T, P, Z

12. If Y is performed first, the songs performed second, third, and fourth, respectively, could be

- (1) T, X, and O
- (2) T, Z, and O
- (3) X, O, and P
- (4) X, P, and Z
- (5) X, T, and O

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may be useful to draw a rough diagram. Circle the response that most accurately and completely answers each question.

Questions 1-5

Each of seven travelers—Norris, Oribe, Paulsen, Rosen, Semonelli, Tan, and Underwood—will be assigned to exactly one of nine airplane seats. The seats are numbered from 1 through 9 and arranged in rows as follows:

Front row: 1 2 3, Middle row: 4 5 6, Last row: 7 8 9

Only seats in the same row as each other are immediately

beside each other. Seat assignments must meet the following conditions:

Oribe's seat is in the last row.

Paulsen's seat is immediately beside Rosen's seat and also immediately beside an unassigned seat.

Rosen's seat is in the row immediately behind the row in which Norris' seat is located.

Neither Semonelli nor Underwood is seated immediately beside Norris.

1. Which one of the following is a pair of travelers who could be assigned to seats 2 and 8, respectively?

- (1) Norris, Semonelli
- (2) Oribe, Underwood
- (3) Paulsen, Oribe
- (4) Rosen, Semonelli
- (5) Underwood, Tan

2. If Semonelli and Underwood are not assigned to seats in the same row as each other, which one of the following must be false?

- (1) Norris is assigned to seat 2.
- (2) Paulsen is assigned to seat 5.
- (3) Rosen is assigned to seat 4.
- (4) Tan is assigned to seat 2.
- (5) Underwood is assigned to seat 1.

3. If Semonelli is assigned to a seat in the same row as Underwood, which one of the following travelers could be assigned to a seat immediately beside one of the unassigned seats?

- (1) Oribe
- (2) Rosen
- (3) Semonelli
- (4) Tan
- (5) Underwood

4. If the seat to which Tan is assigned is immediately beside a seat assigned to another traveler and also immediately beside one of the unassigned seats, which one of the following must be true?

- (1) Tan is assigned to a seat in the front row.
- (2) Tan is assigned to a seat in the last row.
- (3) Oribe is assigned to a seat immediately beside Semonelli.
- (4) Oribe is assigned to a seat immediately beside Tan.
- (5) Semonelli is assigned to a seat immediately beside Underwood.

5. If Oribe is assigned to a seat immediately beside one of the unassigned seats, which one of the following must be true?

- (1) Oribe is assigned to seat 8.
- (2) Tan is assigned to seat 2.
- (3) Underwood is assigned to seat 1.
- (4) Seat 4 is unassigned.
- (5) Seat 9 is unassigned.

Questions 6–12

A university library budget committee must reduce exactly five of eight areas of expenditure—G, L, M, N, P, R, S, and W—in accordance with the following conditions:

If both G and S are reduced, W is also reduced.

If N is reduced, neither R nor S is reduced.

If P is reduced, L is not reduced.

Of the three areas L, M, and R, exactly two are reduced.

6. Which one of the following could be a complete and accurate list of the areas of expenditure reduced by the committee?

- (1) G, L, M, N, W
- (2) G, L, M, P, W
- (3) G, M, N, R, W
- (4) G, M, P, R, S
- (5) L, M, R, S, W

7. If W is reduced, which one of the following could be a complete and accurate list of the four other areas of expenditure to be reduced?

- (1) G, M, P, S
- (2) L, M, N, R
- (3) L, M, P, S
- (4) M, N, P, S
- (5) M, P, R, S

8. If P is reduced, which one of the following is a pair of areas of expenditure both of which must be reduced?

- (1) G, M
- (2) M, R
- (3) N, R
- (4) R, S
- (5) S, W

9. If both L and S are reduced, which one of the following could be a pair of areas of expenditure both of which are reduced?

- (1) G, M
- (2) G, P
- (3) N, R
- (4) N, W
- (5) P, S

10. If R is not reduced, which one of the following must be true?

- (1) G is reduced.
- (2) N is not reduced.
- (3) P is reduced.
- (4) S is reduced.
- (5) W is not reduced.

11. If both M and R are reduced, which one of the following is a pair of areas neither of which could be reduced?

- (1) G, L
- (2) G, N
- (3) L, N
- (4) L, P
- (5) P, S

12. Which one of the following areas must be reduced?

- (1) G
- (2) L
- (3) N
- (4) P
- (5) W

Appendix H

The Transportation Scale (1-11) & Identification Questions (12-23)

Directions:

Below is a list of statements dealing with your feelings about the film. Please circle a number indicating how much you agree with each statement

		strongly disagree	disagree	agree	strongly agree
1	While I was watching the film, I could easily imagine the events in it taking place.	1	2	3	4
2	While I was watching the film, activity going on in the room around me was on my mind	1	2	3	4
3	I could picture myself in the scene of the events described in the film.	1	2	3	4
4	I was mentally involved in the film while watching it.	1	2	3	4
5	After finishing the film, I found it easy to put it out of my mind.	1	2	3	4
6	I wanted to learn how the film ended.	1	2	3	4
7	The film affected me emotionally.	1	2	3	4
8	I found myself thinking of ways the film could have turned out differently.	1	2	3	4
9	I found my mind wandering while watching the film.	1	2	3	4
10	The events in the film are relevant to my everyday life.	1	2	3	4
11	The events in the film have changed my life.	1	2	3	4
12	I felt a strong sense of identification with Will	1	2	3	4
13	Will's genius made it difficult for me to identify with him	1	2	3	4
14	I felt a strong sense of identification with Chucky	1	2	3	4
15	My emotions during the film were similar to those of Will.	1	2	3	4
16	My emotions during the film were similar to those of Chucky	1	2	3	4
17	I did not care about what happened to Will.	1	2	3	4
18	I did not care about what happened to Chucky.	1	2	3	4
19	I wished I could help Will at points in the film.	1	2	3	4
20	I wished I could help Chucky at points in the film.	1	2	3	4
21	I felt inspired by the movie	1	2	3	4
22	I felt intimidated by Will's abilities	1	2	3	4
23	I liked the movie	1	2	3	4

Appendix I
The Interpersonal Reactivity Index

Reading Style Survey

The following statements inquire about your thoughts and feelings when reading the book. For each item, indicate how well it describes you by writing the appropriate number (1 through 5) on the line.

The questions begin on the next page.....

Statement Describes Me:

	1	2	3	4	5
	Not Well				Very Well
1.	I daydream and fantasize, with some regularity, about things that might happen to me. (F)				_____
2.	In reading the book, I had tender, concerned feelings for Jonathan Seagull. (EC)				_____
3.	I sometimes found it difficult to see things from the "flock's" point of view. (-PT)				_____
4.	Sometimes I didn't feel very sorry for Jonathan Seagull when he was having problems. (- EC)				_____
5.	I really got involved with the feelings of Jonathan Seagull. (F)				_____
6.	I was objective when I read the book, and I didn't often get completely caught up in it. (-F)				_____
7.	Concerning the characters in the book, I tried to look at everybody's side of a disagreement before I made a decision. (PT)				_____
8.	When I saw Jonathan Seagull being treated badly, I felt kind of protective towards him. (EC)				_____
9.	I sometimes feel helpless when I am in the middle of a very emotional situation. (PD)				_____
10.	I sometimes tried to understand the characters better by imagining how things look from their perspective. (PT)				_____
11.	I did not become extremely involved in the book. (-F)				_____
12.	In the book, the characters' misfortunes did not usually disturb me a great deal. (-EC)				_____
13.	In reading the book, If I was sure Jonathan Seagull was right about something, I did not waste much time thinking about other characters' arguments. (-PT)				_____
14.	After reading the book, I felt as though I were one of the characters. (F)				_____
15.	When a character in the book was being treated unfairly, I sometimes didn't feel very much pity for them. (-EC)				_____
16.	I was often quite touched by things that happened in the book. (EC)				_____
17.	In the book, I believed that there are two sides to every question and try to look at them both. (PT)				_____
18.	I would describe myself as a pretty soft-hearted person toward the characters in the book. (EC)				_____
19.	When I read the book, I could very easily put myself in the place of a leading character. (F)				_____
20.	When I felt one of the characters in the book was wrong, I tried to "put myself in his shoes" for a while. (PT)				_____
21.	When I was reading the book, I imagined how I would feel if the events in the story were happening to me. (F)				_____
22.	Before criticizing a characters actions, I tried to imagine how I would feel if I were in their place. (PT)				_____