Rating the Acting Moment: Dissociation, Flow, and Empathy after a Monologue Performance

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Abstract

Actors make imagined characters in imaginary circumstances come alive, as if they were real. What cognitive processes make it possible for actors to accomplish this feat? The goal of this dissertation was to examine three characteristics that actors may possess and that might make this possible: dissociation, flow, and empathy. Acting students (n = 44) and non-acting students (n = 43) first completed a baseline measure of dissociation, and then performed a monologue that was given to them. This performance was recorded and later rated on dimensions of acting. Participants next completed self-report measures of dissociation, flow, and empathy. It was hypothesized that acting students would score higher than non-acting students on all three measures, and that dissociation of all participants would increase post-performance. I also assessed whether acting experience, dissociation, flow, empathy, and/or the time taken to prepare the monologue for performance predicted performance ratings. The results revealed that acting students scored significantly higher than non-acting students on flow (and some of its subscales) and empathy (and some of its subscales). Although no group differences emerged on pre-performance levels of dissociation, only acting students significantly increased their level of dissociation post-performance. Finally, acting experience was the only significant predictor of performance ratings for both acting and non-acting students.

This research demonstrates that, compared to non-acting students, acting students report higher levels of empathy and flow immediately after performing a monologue. Additionally for acting students, levels of dissociation rise after performing the monologue. Empathy and dissociation are likely important tools used by actors to "become" a character, and flow is likely the result of actors' ability to immerse themselves fully in the performance. Nevertheless, acting experience is the strongest predictor of how a performance will be rated.

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1.0 Introduction

Acting involves portraying characters and giving life to scripts by behaving as someone else (Thomson & Jaque, 2017), but without the intent to deceive (Goldstein & Winner, 2010). Humans have been acting out stories for one another at least since the ancient Greeks, and likely long before (Benedetti, 2007; Frazer, 1993; Konijn, 1997; Roach, 1985; Thomson & Jaque, 2017). Although some non-human animals make proto-music (e.g., birdsong) and have been known to paint when given a paintbrush (e.g., apes, elephants, monkeys), no non-human animal engages in the kind of organized pretense that constitutes acting. Some non-human primates display limited examples of imitation (Byrne & Whiten, 1988), but not to the extent involved in dramatic acting. Humans are born with the ability to imitate (Meltzoff & Moore, 1989) and pretend emerges at around two years of age (Piaget, 1951). These early skills may be a precursor to acting abilities (Goldstein & Winner, 2010).

While most of us are not actors, many of us are deeply involved in the world of acting as audience members. We are eager to consume acting – as the millions of dollars grossed by television shows, major motion pictures, and Broadway productions attest. The average American spends four hours a day watching fictional shows on television (Statista, 2017). The National Endowment for the Arts (2013) estimated that over 100 million adult Americans attended a performing arts production in 2012. Moreover, the rise of celebrity culture, in which actors are elevated to a deity-like status, further reveals our fascination with the art of acting.

The esteemed acting teacher Sanford Meisner famously defined acting as "living truthfully under imaginary circumstances" (Meisner & Longwell, 1987). Although there

are many debates on how to achieve this goal, history has settled on two main approaches to acting – Method and Technique. Method acting, which is sometimes referred to as "inside out" training, requires that actors "become" a character by feeling the same emotions as their characters. This is often achieved by recalling personal experiences that arouse the feelings described in the script. Some Method actors strive to stay in character at all times, even in between rehearsals and performances. This approach is based on renowned acting teacher Lee Strasberg's interpretation of Konstantin Stanislavsky's teachings (Benedetti, 1999; Gordon, 2006; Konijn, 1997; Krasner, 2000). Technique acting, which is sometimes referred to as "outside in" training, encourages actors to focus instead on conveying the exterior, physical qualities of the characters (Benedetti, 2007; Konijn, 1997). Although acting schools today often derive their own combination of these two approaches, American acting typically encourages more of an emotional connection with a character, while British acting typically relies more on physicality (Konijn, 1997). Unless otherwise specified, the word "acting" in the remainder of this dissertation will refer to the style of Method or Method-like acting commonly seen in the United States.

Regardless of acting training approach, all actors must become adept at the many components involved in acting, such as memorizing lines, following stage directions, and simultaneously relaxing the body while manipulating voice and gesture. But we do not yet fully understand the cognitive processes involved in realistically portraying a character. There is a scarcity of psychological literature on acting, and this stands in stark contrast to the availability of psychological research on other art forms. The goal of this dissertation is to examine the psychology of actors, in terms of dissociation, flow, and

empathy. In what follows, I first define these concepts and explain how they may relate to acting. I then present my research targeted at furthering our understanding of this topic.

1.1 Dissociation

When actors take on and become a character while acting, they are to some extent dissociating from themselves. *The Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; APA, 2013) defines dissociation as an interruption or break in the typical integration of consciousness, memory, identity, emotion, perception, body representation, motor control, or behavior. The DSM-5 identifies the following five dissociative disorders: dissociative identity disorder (the presence of more than one distinct personality, previously called multiple personality disorder), dissociative amnesia (an inability to recall important autobiographical information), depersonalization (episodes of feeling unreal or detached from the self), derealization (feeling of unreality or detachment from one's surroundings), and other specified / unspecified dissociative disorder (symptoms that do not meet the full criteria for any of the other dissociative disorders). Dissociation lies on a continuum ranging from these major forms of psychopathology described in the DSM-5 to normative dissociation (e.g., absorption, day dreaming, fantasizing, and night dreaming) (Butler, 2006; Perez-Fabello & Campos, 2011). Unlike pathological dissociation, normative dissociation is common in everyday life and does not impair functioning.

Although creativity is regarded as a factor related to dissociation (see Andreasen, 1996), there has been little work specifically researching acting. It is plausible that dissociation in artists is most common in those who enter into the lives of characters. If so, acting may be the art form most related to dissociation. Similar to dissociative identity

disorder, for example, actors strive to "become" another person by taking on their character's emotional and physical life. One way they achieve this is by training in exercises that require them to re-live personal experiences that are like those of their character. They therefore learn to feel real emotions as they re-experience personal memories, but they feel these emotions in an imagined situation (that of their character). Acting is therefore strikingly reminiscent of dissociation, especially due to the frequency with which actors embody different characters.

The potential negative as well as positive effects of this kind of activity on the psyche of the actor have been little researched. Panero, Michaels, and Winner (2015) conducted two studies investigating whether student actors experienced pathological dissociation and whether those experiences were part of their creative process. In Study 1, dissociation in conservatory acting students was measured before and after six months of training. Contrary to hypothesis, post-training scores did not show an increase in dissociation. However, at baseline, acting students scored significantly higher on dissociation than the normal population and these scores were significantly higher than the cut-off score for dissociative disorders. These scores, however, were driven by the non-pathological component of the measure (i.e., absorption and imaginative involvement). Therefore, high dissociation in student actors may not indicate psychopathology.

Study 2 of Panero et al. (2015) continued to explore dissociation in actors by comparing acting students to visual arts students (an artist control group) and psychology students (a non-artist control group). Both actors and visual artists scored higher than the non-art students on dissociation. The dissociation in acting students was explained solely

by the non-pathological trait of absorption. The dissociation in visual art students was explained by the following non-pathological and pathological traits: absorption, fantasy proneness, depression, and anxiety. These results suggest that, while dissociation in student actors is just part of their creative process and thus non-pathological, it may be pathological in other types of art students.

Contrary to Panero et al. (2015), Thomson and Jaque's (2011) study of actors at various stages in their careers concluded that dissociation in actors is not solely attributable to non-pathological traits. Student and professional actors with Stanislavsky-based training scored significantly higher on pathological dissociation and on fantasy proneness than did non-actors. Interestingly, fantasy proneness but not previous traumatic experiences significantly predicted pathological dissociation in both student and professional actors and non-actors. All participants with high fantasy proneness scored high on pathological dissociation. These results contradict previous findings that pathological dissociation results from trauma (APA, 2013; Butler, 2006) and that fantasy proneness is part of healthy psychological functioning (Giesbrecht, Lynn, Lilienfeld, & Merckelbach, 2008). Yet they are in line with the notion that extensive fantasizing may lead to psychopathology, such as dissociation (Giesbrecht et al., 2008; Merckelbach, Horselenberg, & Muris, 2001; Pekala, Angelini, & Kumar, 2001; Wilson & Barber, 1983). These findings therefore suggest that fantasizing might leave actors (whether professional or student) more vulnerable to dissociative disorders.

In another study of professional actors with conservatory training, Thomson and Jaque (2012) reported that actors scored higher than non-actors on pathological dissociation, non-pathological dissociation (i.e., absorption and imaginative

involvement), and fantasy proneness. Greater fantasy proneness and non-pathological dissociation may result from the consistent intense engagement of fantasy and imagination required from the demand on professional actors to create realistic characters. In excess, these actions may plausibly resemble pathological dissociation. Since the participants of this study were able to maintain professional acting careers, however, they seem to employ purposeful dissociative experiences at will.

The results from the three studies reported above showed that actors report high levels of dissociation. Inconsistent results emerged, however, when examining the components of this dissociation. Actors' dissociation was similarly related to both negative and positive experiences of psychopathology (Thomson & Jaque, 2011, 2012), fantasy (Thomson & Jaque, 2011), and absorption (Panero et al., 2015; Thomson & Jaque, 2012). Caution must be taken when comparing these studies, however, since each one examined actors at different stages in their careers. Although the same measure of dissociation was used in all three studies (i.e., the Dissociative Experiences Scale-II by Carlson & Putnam, 1993), they measured dissociation retrospectively, and this could mean that actors were reflecting on dissociation that occurred days, weeks, or months previously. In contrast, the current study questioned actors immediately following a performance.

1.2 Flow

When actors experience "being in the moment" (e.g., fully embodying the imaginary circumstances of the script) they are likely in flow. Csikszentmihalyi (1975) coined the term "flow" to refer to a peak positive psychological experience. This is sometimes also called an optimal experience, and occurs during an activity that is fully

absorbing (Csikszentmihalyi, 1990). One can experience flow during any kind of activity, from ordinary activities such as listening to music, dancing, playing chess, or running to intense thinking that leads to scientific discoveries (Csikszentmihalyi, 1975, 1996). Flow can occur during any intrinsically rewarding activity, regardless of the level of complexity, but only when the skill level can meet the challenge. If the skill outweighs the challenge, then relaxation or boredom may occur. If the challenge outweighs the skill, then anxiety may occur. Due to its rewarding process, flow has most recently become a focus of study within the field of positive psychology (Nakamura & Csikszentmihalyi, 2002; Seligman & Csikszentmihalyi, 2000).

Flow is a much sought-after state that is difficult to achieve. It may occur when experiencing a dangerous situation and turning it into an enjoyable challenge (such as might occur when a football player encounters a linebacker during a game). For actors, performing may result in flow, which successively allows audiences to experience flow (Csikszentmihalyi, 1990; Jackson & Eklund, 2004; Robb & Davies, 2015). Live performances permit direct communication between performer and audiences that may initiate a flow feedback loop between them (Thomson & Jaque, 2017). Individual differences in the tendency and ability to experience flow may be due to a desire for challenge (Logan, 1988) and concentration abilities (Csikszentmihalyi, 1990; Csikszentmihalyi & Csikszentmihalyi, 1988; Jackson & Kimiecik, 2008). Nevertheless, in order to achieve flow, one must achieve a feeling of being at one with the activity, which results from reaching high levels of concentration and a loss of self-consciousness (Csikszentmihalyi, 1990).

Although flow has been theorized to play a major role in performance art (Jackson & Eklund, 2004), only three psychological studies exist on the relationship between flow and acting. As an exploratory dissertation study, Allen (2001) examined altered states of consciousness (i.e., a subjectively clear shift in the pattern of mental functioning) in eight professional actors using qualitative interviews. These altered states of consciousness included flow, dream states, hypnosis, and meditation. Interestingly, these professional actors described what they experienced while acting in terms similar to the dimensions of flow: heightened clarity about one's needs and intentions, suspension of critical judgement, release from constraints of time, alignment of self with intentions, heightened energy, and satisfaction. They also reported experiencing a transition between "performer consciousness" and "ordinary consciousness", with a preference to stay in the "performer consciousness" (described as an addictive performance high). These findings suggest that, similarly to flow, acting may be an altered state of consciousness.

An unpublished thesis study explored the relationship between trait flow and dissociation in acting students. Panero et al. (2015) measured these constructs in conservatory acting students before and after six months of training. Although no significant changes occurred over time, at both time points, the flow dimension of transformation of time (i.e., the seeming of slowing or speeding up of time) significantly predicted scores on both pathological and non-pathological dissociation. Additionally, post-training, the flow dimension of unambiguous feedback (i.e., knowing that the current activity is on track towards a desired goal) predicted non-pathological dissociation. These results imply that acting students experience subjective changes in time during pathological dissociation, non-pathological dissociation, and flow. They also

suggest that, for acting students, unambiguous feedback is experienced during both flow and non-pathological dissociation. These shared dimensions do not necessarily indicate, however, that dissociation and flow are the same constructs.

Only one peer-reviewed publication reports on acting and flow. Martin and Cutler (2002) examined 40 acting students' flow experiences. These flow experiences occurred an average of four times in a year. For the students' flow to occur and for their acting to feel autotelic, they reported needing a high balance between skill and challenge and degree of concentration. They also reported few instances of receiving clear feedback during flow. Unlike in Panero et al. (2015), they reported few experiences of an alteration of time during flow. Surprisingly, years of acting experience did not correlate with flow experiences, which may contradict the idea that novice actors and professional actors have different psychological experiences while acting (Burgoyne, Poulin, & Rearden, 1999). The authors of this study concluded that in order to retain acting students, theater practitioners must carefully match the role difficulty with the actors' skill level.

The results from the three studies reported above showed that acting is a flow-inducing experience. Professional actors experienced acting in terms of flow and described it as a transition between qualitatively different states of consciousness (Allen, 2001). The challenge-skill balance dimension of flow was especially important for acting students (Martin & Cutler, 2002). Additionally for student actors, some dimensions of flow were related to dissociation (Panero et al., 2015). Caution must be taken when comparing these studies, however, since they all used different research designs and measures. In addition, all three studies measured flow retrospectively, and this could

mean actors were reflecting on flow that occurred days, weeks, or months previously. In contrast, the current study questioned actors immediately following a performance.

1.3 Empathy

The word "empathy" can take on several interpretations. It can mean knowing what someone else is feeling (e.g., I see you cry and I know you are sad). This concept is sometimes referred to by different names: theory of mind (Wellman, Cross, & Watson, 2001), mentalizing (Frith, Morton, & Leslie, 1991), mind reading (Whiten, 1991), perspective taking (Johnson, 2012), or social intelligence (Baron-Cohen, Jolliffe, Mortimore & Robertson, 1997). As in Winner (in press 2018), I will refer to this kind of empathy as cognitive empathy. Empathy can also mean feeling what someone else is feeling (e.g., I see you cry and I feel your sadness). This concept is sometimes referred to as emotional contagion (Hatfield, Cacioppo, & Rapson, 1993). As in Winner (in press 2018), I will refer to this kind of empathy as emotional empathy. Lastly, empathy can mean acting to help someone else (e.g., I see you cry and I comfort you). This concept is sometimes referred to as sympathy (Coplan, 2004), or altruistic or prosocial behavior (Johnson, 2012). As in Winner (in press 2018), I will refer to this kind of empathy as compassionate empathy. Unless otherwise stated, when I simply use the word "empathy" hereafter, it will be in reference to all three of these meanings.

Since actors frequently portray the personalities of various characters (either physically and/or psychologically) with each new character that they play, it is plausible that acting fosters greater empathy. Empathy is typically considered to be an important social skill and there is an abundance of anecdotal evidence and reports indicating that theater intervention programs improve social skills (Corbett, Gunthere, Comins, Price,

Ryan, Simon, & Rios, 2011; Corbett, Key, Qualls, Fecteau, Newsom, Coke, & Yoder, 2015; Corbett, Swain, Coke, Simon, Newsom, Houchins-Juarez, Jenson, Wang & Song, 2014; Lerner & Levine, 2007; Lerner & Mikami, 2012; Lerner, Mikami, & Levine, 2011; Shakespeare Behind Bars, n.d.). Scientific studies on the relationship between acting and empathy, however, report inconsistent findings.

Correlational studies show that professional actors (Nettle, 2006) and student actors (Goldstein, Wu, & Winner, 2009-2010) have higher levels of empathy than do non-actors. In their first study, Goldstein et al. (2009-2010) compared high school acting majors in an arts high school to other high school students. Participants completed two self-report measures, one of cognitive empathy and one of emotional empathy. The acting majors performed significantly better than the non-acting students in cognitive empathy, but not in emotional empathy. In their second study, Goldstein et al. (2009-2010) replicated their first findings, but this time comparing college acting majors to college psychology students and using two different measures of empathy than the first study, one of cognitive empathy and one of compassionate empathy. As in the first study, the acting majors performed significantly better than the non-acting majors in cognitive empathy, but not in compassionate empathy.

Two experimental studies have examined whether a dose of acting training can improve empathy. Chandler (1973) recruited pre-teen boys diagnosed as anti-social or delinquent and who scored low on a measure of perspective taking ability (i.e., cognitive empathy). The boys were randomly assigned to one of three groups: (1) an acting condition in which they prepared and acted in a skit many times, (2) a film condition in which they made a short film, or (3) a control condition with no intervention. After ten

weeks, the boys in the acting condition improved their cognitive empathy abilities more than the boys in the other two conditions.

Goldstein and Winner (2012) performed an experimental study with two groups of 8-10 year olds (one in an acting program and one in a visual arts program) and two groups of 13-16 year olds (one in an acting program and one comprised of students in either a visual arts program or a music program). Unlike the true experimental study conducted by Chandler (1973), participants in this study self-selected into their programs. They were measured before and after one year of participating in their program on cognitive empathy, emotional empathy, and a measure of empathy that does not distinguish between kinds of empathy. On the measure of cognitive empathy given to all four groups, no changes occurred as a function of time; however, the adolescent acting students scored higher at baseline than the adolescent non-acting students. On the measure of cognitive empathy given only to the adolescent groups, the acting students increased their scores after one year of training. On the measure of emotional empathy given to all four groups, no changes occurred as a function of time; however, the child acting students scored higher at baseline than the other participants. Finally, on the measure of unspecified empathy given to all four groups, both groups of acting students increased their scores after one year of training. Goldstein and Winner (2012) offer two possible explanations for these results. The correlational explanation is that children and adolescents who already have an elevated capacity for cognitive and emotional empathy choose acting over other art forms. The causal explanation is that acting training fosters cognitive empathy in adolescents, although it may take longer than one year to cultivate.

The results from the five studies reported above showed that actors are more empathic people than non-actors. The correlational studies revealed that professional actors (Nettle, 2006) and student actors (Goldstein et al., 2009-2010) have higher levels of empathy than do non-actors. The experimental study by Chandler (1973) and the quasi-experimental study by Goldstein and Winner (2012) showed that acting training leads to an improvement in empathy in children and adolescents. When we tease apart the different kinds of empathy, the results are less clear. One of the limitations in comparing these studies, however, is that they all used different empathy measures. The current study uses an established measure that allows for the differentiation of cognitive, emotional, and compassionate empathy.

2.0 Methods

2.1 Participants

Actor participants (hence referred to as actors) were recruited through word of mouth (see Appendix A) in Boston, Los Angeles, and Milwaukee, and compensated with $20. The non-actor control group participants (hence referred to as non-actors) were recruited through the Boston College Sona online participant recruitment tool (see Appendix B) and compensated with one research participation credit. (Hereafter the word "participants" will refer to those in both groups.) One non-actor did not complete the quantitative measures and was thus excluded from all analyses. The total number of participants included in the analyses was 87 (54 female, 33 male), ages 18-30 (M = 19.87, SD = 1.74). Forty-four of those participants were student actors (37 from the Boston area, 5 from the Los Angeles American Academy of Dramatic Arts, and two from the University of Wisconsin-Milwaukee theater program) (29 female, 15 male) ages 18-30 (M = 20.57, SD = 1.99). Forty-three of the total participants were Boston College undergraduate students taking a psychology course requiring research participation credit (25 female, 18 male) ages 18-22 (M = 19.16, SD = 1.067).[1]

2.2 Procedure

Participants first read and signed a consent form (see Appendix C) and then read the selected monologue to themselves. Immediately following those tasks, they completed a measure of their state level of dissociation. Then they were allotted 30 minutes to prepare the monologue for performance; after which they performed the

[1] Sample sizes were based on Panero et al. (2015) which compared dissociation between student actors and non-acting students, and yielded an effect size of Cohen's d = .70. An analysis on G*Power 3.1.9.2 determined that, in order to obtain a power of d = .8 with α error probability of .05, the size of each sample group had to be 35.

monologue in front of a camera. If they felt they made a mistake during the performance, they were allowed to start the monologue over. Immediately following the performance, they completed the same measure of state dissociation and a measure of state flow, in a counter-balanced order. Then they completed a trait measure of empathy, and a demographic and acting experience questionnaire. Research assistants of the Arts and Mind Lab later rated the recordings. After being compensated, participants were asked to grant permission to use their recordings for future research purposes. No additional compensation was provided. Those willing to give this permission were required to sign an additional consent form (see Appendix J). The Boston College Institutional Review Board approved this study.

2.3 Materials

This dissertation assumes a clear distinction between trait and state personality characteristics and an ability to measure them through self-report. Trait theorists (also called dispositional theorists) believe that personality *traits* are characteristics of one's personality that are consistent and stable over time (Allport & Odbert, 1936). Temporary personality characteristics are called *states*. Some personality characteristics can be trait and/or state; for example, one may be an empathic person and/or feel empathy at a specific moment. Self-report measures alter their language depending on whether they aim to measure trait or state personality characteristics. Measures of trait personality characteristics are typically written in the past tense, while measures of state personality characteristics are typically written in the present tense. Many debates exist in the field of personality psychology regarding whether personality characteristics should be classified in this way and, if so, whether they can be properly distinguished by merely changing the

tense of questionnaires. Nevertheless, researchers have found it useful to distinguish between trait and state characteristics of personality (Chaplin, John, & Goldberg, 1988; Corr & Matthews, 2009; Hogan, Johnson, & Briggs, 1997).

2.3.1 Monologue. All participants performed the same monologue chosen from *Bird of Prey* by Jim Grimsley (1999) (see Appendix D) in front of a camera. Having all participants perform the same monologue provided the advantage of experimental control over possible confounding variables, while it also removed the possibility of generalizing the results to other monologues. Although the character reciting this monologue is a teenage girl, when taken out of context, the monologue is appropriate for all ages, genders, and ethnicities. Furthermore, participants were asked to perform the monologue as their own gender and age. The monologue was also chosen because, when taken out of context, the circumstances of the play appear ambiguous. This allows actors to use their imagination to fill in the gaps of the missing or vague background information. It also prevents the raters from assuming that there is one correct way to perform this monologue. Participants were allotted 30 minutes to prepare the monologue and were allowed to look at the monologue script during the performance, so that memorization was not required. The participants' performance time averaged two minutes and 44 seconds.

2.3.2 Recordings. Participants from the Boston area were recorded in Boston College McGuinn Hall room 329A. Recordings in other recruitment cities took place in comparable rooms. All recordings were done on the research assistants' smart phone cameras (i.e., LG Nexus 5, iPhone 6, iPhone 6S, iPhone 6SE, iPhone 7), which had comparable technology (1080p-2160p resolution and 8-16 megapixels), and were

stabilized on a tripod. Research assistants were asked to avoid shadows, but no additional lights or microphone were provided. As in ideal self-recorded auditions (Hacker, 2011; Ross, 2014), the camera lens was set at the participant's eye level, with the participant in a medium frame, and with a blank background. Participants were instructed to direct the monologue straight ahead, into the camera. Certain videos were edited to adjust the frame, cut out dialogue between the research assistant and participant, cut out participant's identifying information, and/or cut out a participant's first attempt at the monologue. All recordings were saved in a protected file in the Boston College psychology department server, and deleted from the phones.

2.3.3 Dissociation. The Peritraumatic Dissociative Experiences Questionnaire (PDEQ; Marmar, Metzler, & Otte, 2004; Marmar, Weiss, & Metzler, 1998; see Appendix E) was used to assess participants' state level of dissociation, both before and after the monologue performance. The PDEQ was designed to be administered as close as possible to the dissociation-inducing event to promote clear recall. It is a self-report questionnaire consisting of a list of 10 dissociative experiences answered on a 5-point Likert scale ranging from 1 = "not at all true" to 5 = "extremely true". It has acceptable reliability and convergent, discriminant, and predictive validity, with an internal consistency of coefficient alpha = .85. Total scores are calculated by averaging the individual item scores. The final scores thus range from 1 to 5.

This measure differs from the measure of dissociation used in the three studies cited above (i.e., the Dissociative Experiences Scale-II by Carlson & Putnam, 1993), in that it does not contain subscales and only measures pathological (not non-pathological) dissociation.

2.3.4 Flow. The Event Experience Scale, also known as the Flow State Scale-2 (FSS-2; Jackson & Eklund, 2004; see Appendix F), was used to assess participants' state level of flow after the monologue performance. The FSS-2 was designed to be administered as close as possible to the flow-inducing activity to promote clear recall. It is a self-report questionnaire consisting of a list of 36 flow experiences answered on a 5-point Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree". It has acceptable factorial and construct validity, internal consistency, and reliability (alpha coefficients range from .72 to .92). Total scores are calculated by averaging the individual item scores. The overall scores thus range from 1 to 5.

The 36 items in the FSS-2 can be separated into nine subscales with four items in each. These subscales are theoretically grounded on Csikszentmihalyi's (1990) conceptual dimensions of flow and include the following: autotelic experience (intrinsically rewarding experience), challenge-skill balance (personal skills meet the demands of the challenge), loss of self-consciousness, clear goals, transformation of time (the seeming of slowing or speeding up of time), sense of control, unambiguous feedback (knowledge that the activity is on track towards the goal), concentration on the task at hand (intense absorption), and action-awareness merging (feelings of being one with the activity). As with the overall score, each individual subscale score ranges from 1 to 5 (Jackson & Eklund, 2004).

2.3.5 Empathy. The Interpersonal Reactivity Index (IRI; Davis, 1980; see Appendix G) was used to assess participant's trait level of empathy in their everyday lives (not specifically towards their characters). This is the only measure for which gender differences have been reported; females score higher than males. The IRI was

designed based on the definition of empathy as a "reaction to the observed experiences of another" (Davis, 1983). It is a self-report questionnaire consisting of a list of 28 empathy experiences answered on a 5-point Likert scale ranging from 0 = "does not describe me well" to 4 = "describes me very well". For this study, however, a range of 1-5 was used, to parallel the other measures. It has excellent internal reliability (alpha coefficients range from .70 to .78) and test-retest reliability (coefficients range from .61 to .81). Total scores are calculated by averaging the individual item scores. The final scores thus range from 1 to 5.

The 28 items of the IRI can be separated into four subscales with seven items in each. Inter-correlation analyses demonstrated that each subscale examines an independent construct of empathy and include the following: fantasy (tendency to imaginatively transpose the self into the feelings and actions of fictitious characters; i.e., emotional empathy), perspective taking (tendency to adopt the psychological point of views of others; i.e., cognitive empathy), empathic concern (feelings of sympathy and concern for others; i.e., compassionate empathy), and personal distress (feelings of personal anxiety in tense interpersonal situations; i.e., emotional empathy). As with the overall score, each individual subscale score ranges from 1 to 5 (Davis, 1980, 1983).

2.3.6 Demographic and acting experience questionnaire. The demographic and acting experience questionnaire (see Appendix H) contained 12 questions. Questions 1 and 2 asked participants their age and with which gender they most identify. Questions 3 and 4 asked if they had ever studied *Bird of Prey* by Jim Grimsley (1999), the play containing the selected monologue, and, if so, to what extent. One actor reported having

previously studied *Bird of Prey*. When asked about the extent of her experience with this play, however, she provided no further explanation.

Questions 5-8 asked about acting experience. Question 5 asked if participants had ever acted in a formal production, such as a play or a movie. If they answered yes, then question 6 asked them to list the names of the characters and plays they have portrayed. They received 1 point for participating in 1-3 productions as part of the ensemble, 2 points for participating in more than 3 productions as part of the ensemble or in 1-2 productions as a lead, or 3 points for participating in more than 2 productions as a lead. Question 7 asked if participants had taken any acting classes. If they answered yes, then question 8 asked them to list the name and duration of acting classes they had taken. They received 1 point for taking 1-2 acting classes lasting less than 1 semester, 2 points for taking 3 or more acting classes lasting less than 1 semester or 1-2 acting classes lasting 1 semester or longer, or 3 points for taking more than 2 acting classes lasting 1 semester or longer. Therefore, scores for acting experience could range from 0 to 6, with higher scores reflecting more acting experience.

Questions 9, 10, and 12 asked about the presence of Method-like acting and of experiences of boundary blurring between actor and character. Question 9 directly asked about Method acting and question 12 directly asked about boundary blurring. Participants who endorsed at least one incidence of either Method-like acting or boundary blurring between themselves and a character were categorized as Method actors. Question 10 asked how participants "find" their character. Participants who described finding their character by exploring emotions, biographical memories, or by other intangible means were also categorized as Method actors. A total of thirty-eight actors made at least one

endorsement in either question 9, 10, or 12, and were thus categorized as Method actors. Only six actors were categorized as non-Method actors. Since this cell was too small to perform any comparative statistical analyses, no hypotheses were developed.

Note that the responses to question 11 were not analyzed for this study. This question asked about differences between the emotions experienced while acting during rehearsal, during performance, during acting class, and during an audition. It seems that this question was not clearly phrased because the responses were uninformative and did not fit into a manageable scoring scheme.

2.3.7 Performance ratings. Two undergraduate research assistants independently rated each of the 87 participant performances. One of the raters had two years of acting training, while the other rater had no acting training. Each participant was randomly assigned a video number, and the videos were then rated in numerical order. The presence of the following six dimensions of acting was rated on a 5-point Likert scale, ranging from 1 = "Do not agree at all" to 5 = "Agree very strongly": (1) This actor seemed to really "become" the character; (2) This actor seemed fully absorbed in acting this role; (3) This actor was believable as the character; (4) I would like to see a performance with this person as the lead actor; (5) I felt empathic towards the character this actor portrayed; (6) I would rate this actor as excellent, overall. These six items were designed to measure the participants' ability to realistically portray the character through acting. They were not intended to measure other aspects of performance, such as physically looking like a character or memorizing lines and stage directions. Therefore, the raters were explicitly instructed only to rate the participants on the listed dimensions, not on appearance or memorization. The average of the six item scores was used as each

rater's score of the participant, and the average of the two rater's scores was used as each participant's final rating score. To calculate inter-rater reliability, I computed a Pearson product-moment correlation coefficient which showed that the raters' scores had a strong correlation ($r = .68$, $p < .001$).

To examine the appropriateness of collapsing across the six item scores to achieve one score per rater, I used Cronbach's alpha and a principal component analysis with no rotation. Since I used each rater's six scores for each participant, each participant appeared as two different cases. Cronbach's alpha showed excellent internal consistency at .98. For the principal component analysis, all six questions had loadings of .96 or higher on the first principal component, which accounted for 93.88% of the variance. The Eigenvalues for the remaining components were less than .15. The same results emerged when I performed the analyses for each rater separately.

2.3.7.1 Rating training. Prior to rating the participants, the two raters were simultaneously trained by watching seven video clips of professional performances: three Academy Award winning actors (Jack Lemmon, Jeff Bridges, and Ellen Burstyn) and four Golden Raspberry Award winning actors (Steven Seagal, Burt Reynolds, Judd Nelson, and Tanya Roberts). The Golden Raspberry Awards (also known as the Razzies or Razzie Awards) are mock awards in recognition of the worst in film, which have been recognized by numerous international journalists and film industry professionals (Lindrea, 2007; Marrs, 2009). As with the participant videos, the training videos showed the main actor in a medium frame. To view the training videos, please click here. These award-winning actors were chosen as examples of excellent and of poor acting.

The specific training video clips were additionally chosen because they were old enough to likely be unrecognized by the raters, but not so old as to seem dated. Nevertheless, the raters mentioned that the video quality, editing style, background music, and acting style appeared antiquated. This unexpected response served as an additional training opportunity to focus the raters' attention solely on the six acting dimensions important to this study.

Both raters watched all seven training video clips and independently rated the performances as they would later do for the participant videos. Unlike during the rating of the participants, however, the raters were provided with background information on the plot of the movie and, after rating each video, there was an open discussion about how each rater rated each video and why. To validate this training protocol, I conducted an ANOVA with type of award as the independent variable on the scores of the raters. The results showed that the raters rated the Oscar winners ($M = 4.67$, $SD = .29$) significantly higher than the Razzie winners ($M = 2.92$, $SD = .79$), $F(1,5) = 12.911$, $p = .016$, $\eta_p^2 = .72$, demonstrating an ability to rate actors similarly to how the professional acting community had previously rated them.

Finally, after completing the original seven training videos, I acquired two additional videos for training. One participant video was re-purposed as a training video because the participant did not complete the quantitative measures and was thus excluded from all analyses (as mentioned above). (Note that this video is not available for viewing along with the other training videos, due to participant confidentiality.) This video also served as a demonstration of what the raters would see after training. Furthermore, since the training video with Judd Nelson also starred Razzie Award winner for Worst Actress,

Ally Sheedy, it was re-used as a training video with a focus on her. Both raters watched both video clips, independently rated them on the six dimensions of acting, and then had an open discussion about each one.

To calculate inter-rater reliability for the nine training videos, I used the same method as with the participant videos and computed a Pearson product-moment correlation coefficient which showed that the raters' scores had a strong correlation (r = .79, p = .012).

Once rating of the participant videos began, inter-rater reliability was repeatedly calculated following the completion of small sets of video ratings. This technique was adopted as ongoing training to ensure that the raters maintained their reliability throughout the multiple rating sessions. Rating discrepancies were solved through discussion; however, no changes were made to the numeric values of the initial ratings. Table 1 shows the Pearson product-moment correlation coefficients for each set of video ratings, after averaging across the six item scores so that each video received one score from each rater.

Table 1

Pearson Product-moment Correlation Coefficients for Sets of Participant Videos

Video numbers	Pearson correlation	Significance
1-29	$r = .78$	$p < .001$
30-39	$r = .87$	$p = .001$
40-49	$r = .93$	$p < .001$
50-59	$r = .99$	$p < .001$
60-69	$r = .81$	$p = .004$
70-79	$r = .83$	$p = .003$
80-87	$r = .72$	$p = .044$

2.4 Hypotheses

The following three hypotheses were tested. The first hypothesis examined group differences between actors and non-actors using analysis of variance techniques and *t*-test comparisons. The second hypothesis examined post-performance dissociation in both groups using *t*-tests. The last hypothesis examined the relationship between dependent variables using regression analyses.

2.4.1 Hypothesis 1. Actors should score higher than non-actors on performance ratings, pre-performance dissociation, overall flow, overall empathy, and all flow and empathy subscales (except the empathy subscale of personal distress), as described below.

2.4.1.1 Performance ratings. Actors should score higher than non-actors on performance ratings because actors have previous knowledge of what to do when asked

to perform a monologue with which they are unfamiliar. Non-actors likely do not have this knowledge and, therefore, will not perform as well as actors.

2.4.1.2 Pre- performance dissociation. Actors should score higher than non-actors on pre- performance dissociation. This result was found in studies examining dissociation retrospectively by using a measure of trait dissociation (Panero et al., 2015; Thomson & Jaque, 2011, 2012). The current study expects that those results will replicate when actors are questioned regarding their state dissociation.

2.4.1.3 Flow. Actors should score higher than non-actors on overall flow and all of its subscales. Since non-actors presumably have no knowledge of what to do when asked to perform a monologue, they are less likely than actors to be able to engage with it in such a way that would lead to a flow experience.

2.4.1.4 Empathy. Actors should score higher than non-actors on overall empathy and its subscales, except for the empathy subscale of personal distress. It is plausible that actors utilize fantasy, perspective taking, and empathic concern (three of the four empathy subscales) when connecting with a character. However, the items on the empathy subscale of personal distress describe feelings of anxiety in tense interpersonal situations, which would indicate inferior emotion regulation skills. Some researchers have assumed that actors are experts in emotion regulation skills (Ekman, Levenson & Friesen, 1983; Futterman, Kemeny, Shapiro & Fahey, 1994; Pelletier, Bouthillier, Levesque, Carrier, Breault, Paquette, Mensour, Leroux, Beaudion, Bourgouin & Beauregard, 2003). Therefore, actors should score lower than non-actors on the empathy subscale of personal distress.

2.4.2 Hypothesis 2. Dissociation scores of actors and non-actors should increase after the monologue performance. It is plausible that performing leads to immediate changes in dissociation because, similar to dissociation, acting requires that the actor behave differently from his real self. Furthermore, previous studies found that acting students score higher than non-actors on dissociation (Panero et al., 2015; Thomson & Jaque, 2011, 2012).

2.4.3 Hypothesis 3. Performance ratings should be predicted by acting experience, post-performance dissociation, overall flow, and overall empathy, over and above the mean time taken to prepare the monologue for performance.

2.4.3.1 Acting experience. Acting experience should predict performance ratings because it is likely that participants with more acting experience (in performance and training) will perform more favorably.

2.4.3.2 Post-performance dissociation. Since previous studies found that acting students score higher than non-actors on dissociation (Panero et al., 2015; Thomson & Jaque, 2011, 2012), it would seem that dissociation is a beneficial requirement for acting. Therefore, the performances of participants with high levels of state dissociation (post-performance) should be highly rated.

2.4.3.3 Overall flow. Furthermore, even if actors do not dissociate, they may still achieve a high degree of engagement with their acting that leads to or stems from flow. Therefore, the performances of participants with high levels of state flow should be highly rated.

2.4.3.4 Overall empathy. Lastly, it has been theorized that acting fosters empathy because of the frequency with which actors embody different characters and take on their

points of view (Gross, 2018; Musiker, 2015). Therefore, the performances of participants with high levels of trait empathy should be highly rated.

2.4.3.5 Time taken to prepare the monologue for performance. It is plausible that participants with more acting experience would have more knowledge of what to do when asked to prepare a monologue for performance than less experienced participants. This knowledge might lead to using preparation techniques that take time to implement. It is also plausible that properly utilizing this preparation time might lead to more highly rated performances and to more flow. Therefore, the mean time taken to prepare the monologue for performance will be included in this analysis as a control variable, to insure that preparation time does not solely account for the variance in other variables.

3.0 Results

Means for all of the measures for actors and non-actors, along with pairwise comparisons between groups, are reported in Table 2. The analyses reported below are tests of my three a priori hypotheses and two post hoc explorations.

Table 2

Mean Scores (Standard Deviations) and Pairwise Comparisons between Groups on all Measures

	Actors	Non-actors	Pairwise Comparisons
Performance ratings	3.53 *(1.041)*	1.77 *(.89)*	$p < .001$, $d = 1.82$ *
Dissociation Pre-performance	1.92 (*.56*)	1.82 (*.61*)	$p = .45$, $d = .17$
Post-performance	2.08 (*.76*)	1.98 (*.86*)	$p = .57$, $d = .12$
Flow Overall score	3.63 (*.38*)	3.31 (*.42*)	$p < .001$, $d = .80$ *
Autotelic experience	3.97 (*.63*)	3.23 (*.86*)	$p < .001$, $d = .98$ *
Challenge-skill balance	3.78 (*.65*)	3.20 (*.66*)	$p < .001$, $d = .89$ *
Loss of self-consciousness	3.61 (*.98*)	2.92 (*.98*)	$p = .001$, $d = .70$ *
Clear goals	3.54 (*.74*)	3.19 (*.77*)	$p = .032$, $d = .46$ *
Transformation of time	3.54 (*.65*)	3.34 (*.75*)	$p = .20$, $d = .28$
Sense of control	3.54 (*.69*)	3.35 (*.72*)	$p = .21$, $d = .27$
Unambiguous feedback	3.39 (*.85*)	3.32 (*.72*)	$p = .67$, $d = .089$
Concentration on task at hand	3.70 (*.93*)	3.67 (*.73*)	$p = .89$, $d = .036$
Action-awareness merging	3.59 (*.66*)	3.57 (*.68*)	$p = .92$, $d = .029$

Empathy Overall score	3.53 (*.41*)	3.13 (*.48*)	$p < .001$, $d = .90$ *
Fantasy	4.094 (*.61*)	3.29 (*.85*)	$p < .001$, $d = 1.087$ *
Perspective taking	3.64 (*.78*)	3.25 (*.64*)	$p = .013$, $d = .55$ *
Empathic concern	3.85 (*.67*)	3.52 (*.70*)	$p = .026$, $d = .48$ *
Personal distress	2.56 (*.62*)	2.48 (*.69*)	$p = .57$, $d = .12$
Acting experience	3.89 *(1.66)*	.60 *(1.20)*	$p < .001$, $d = 2.27$ *
Seconds Taken to Prepare Monologue for Performance	841.01 (*488.090*)	533.27 (*377.058*)	$p = .002$, $d = .71$

Note. * = Statistically significant difference between groups.

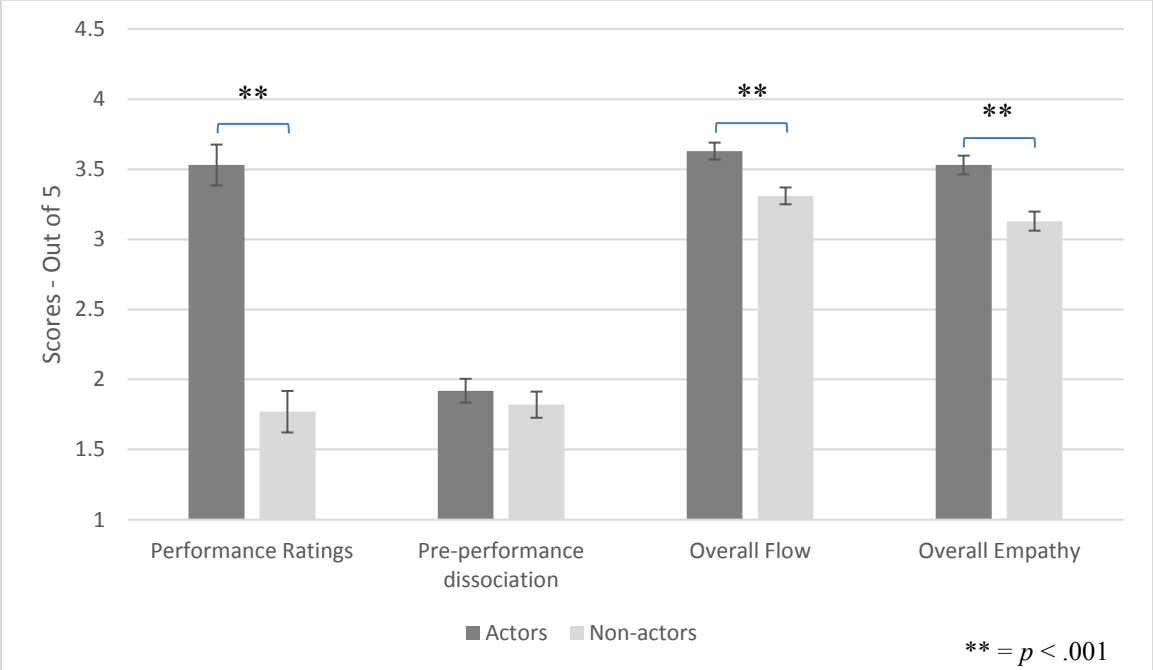
3.1 Results for Hypothesis 1

To assess the hypothesis that actors score higher than non-actors on performance ratings, pre-performance dissociation, overall flow, overall empathy, and all flow and empathy subscales (except the empathy subscale of personal distress), I performed the following three analyses.

3.1.1 Analysis 1. A MANOVA examined the effect of group on performance ratings, pre-performance dissociation, overall flow, and overall empathy. This analysis yielded a main effect of group, $F(4, 82) = 20.92$, $p < .001$, Wilks' $\Lambda = .50$, $\eta_p^2 = .51$. Consistent with hypothesis, actors scored higher than non-actors on performance ratings, $F(1, 85) = 72.65$, $p < .001$, $d = 1.82$, overall flow, $F(1, 85) = 14.16$, $p < .001$, $d = .80$, and overall empathy, $F(1, 85) = 17.71$, $p < .001$, $d = .90$. Contrary to hypothesis, however, no group differences emerged for pre-performance dissociation, $F(1, 85) = .57$, $p = .45$, $d = .17$. See Graph 1 for a visual representation of these results.

Graph 1

Group Differences on Performance Ratings, Pre-Performance Dissociation, Overall Flow, and Overall Empathy

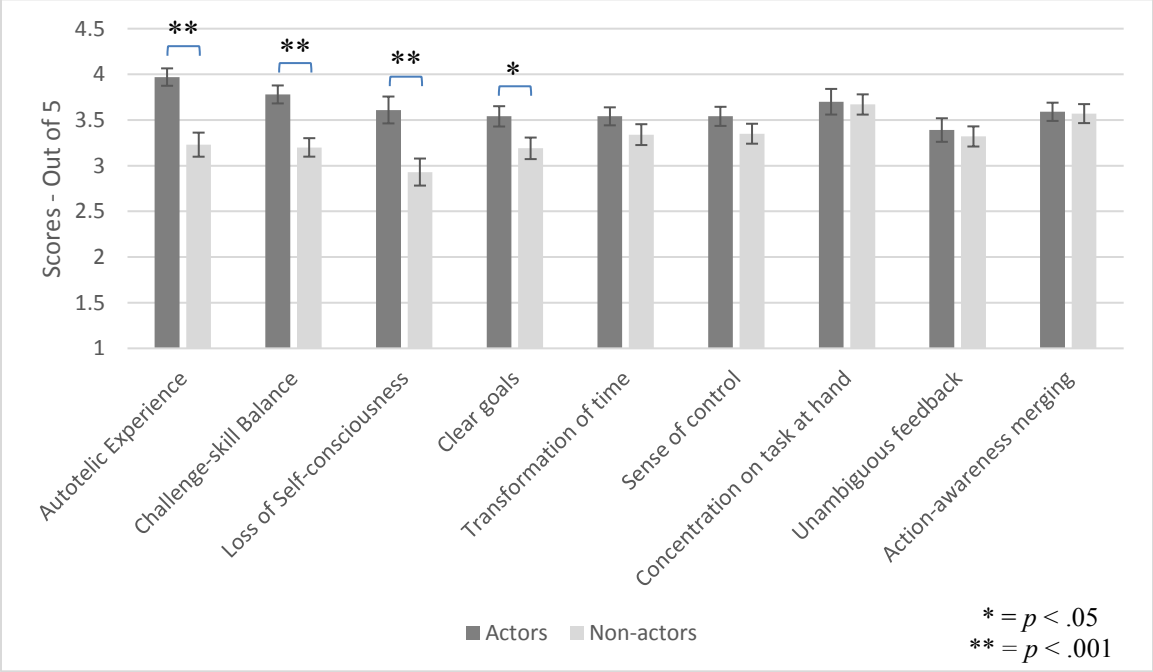


3.1.2 Analysis 2. I next analyzed the effect of group on the subscales of flow with a repeated measures ANOVA by group with the nine flow subscale scores as the dependent variables. This analysis yielded a main effect of flow subscale, $F(8, 680) = 3.18$, $p = .002$, $\eta_p^2 = .036$, and a main effect of group, $F(1, 85) = 14.16$, $p < .001$, $\eta_p^2 = .14$, showing that the means differed across flow subscale and across groups. Group interacted with flow subscale, $F(8, 680) = 3.71$, $p < .001$, $\eta_p^2 = .042$. To explore this interaction, I performed independent samples *t*-tests. Actors scored higher than non-actors on four flow subscales: autotelic experience, $t(85) = 4.60$, $p < .001$, $d = .98$, challenge-skill balance, $t(85) = 4.16$, $p < .001$, $d = .89$, loss of self-consciousness, $t(85) = 3.29$, $p = .001$, $d = .70$, and clear goals, $t(85) = 2.18$, $p = .032$, $d = .46$. There were no

group differences on the remaining five flow subscales: transformation of time, $t(85) = 1.31$, $p = .20$, $d = .28$, sense of control, $t(85) = 1.27$, $p = .21$, $d = .27$, unambiguous feedback, $t(85) = .43$, $p = .67$, $d = .089$, concentration on the task at hand, $t(85) = .14$, $p = .89$, $d = .036$, and action-awareness merging, $t(85) = .11$, $p = .92$, $d = .029$. Thus, actors scoring higher on four of the nine flow subscales drove the interaction of group by flow subscale. See Graph 2 for a visual representation of these results.

Graph 2

Group Differences on Flow Subscales

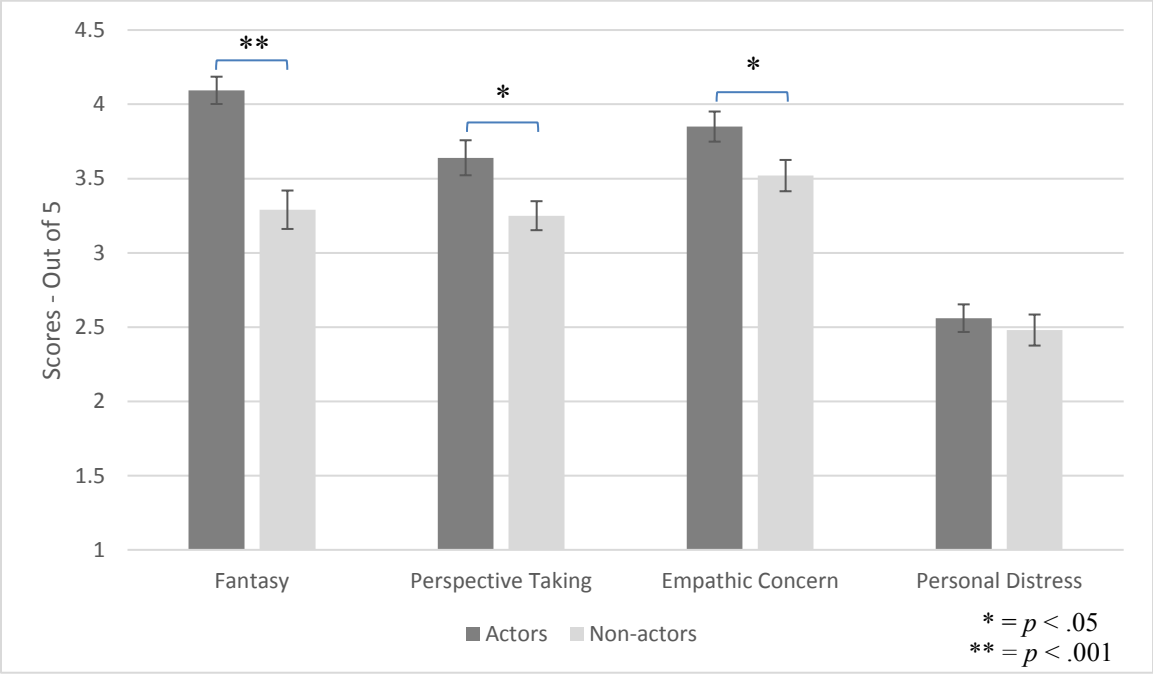


3.1.3 Analysis 3. I then analyzed the effect of group and gender on the subscales of empathy. Gender was included in this analysis because previous research has established that females score higher than males on all of the empathy subscales (all *p*s<.001) (Davis, 1980), and there were 7.41% more females in the actor group than in the

non-actor group. A 2 (group) by 2 (gender) by 4 (empathy subscales) ANOVA with repeated measures on the empathy subscale factor yielded a main effect of empathy subscale, $F(3, 249) = 66.60$, $p < .001$, $\eta_p^2 = .45$, showing that the means differed across empathy subscales. Group interacted with empathy subscale, $F(3, 249) = 3.39$, $p = .019$, $\eta_p^2 = .039$. To explore this interaction, I performed independent samples *t*-tests. Consistent with hypothesis, actors scored higher than non-actors on fantasy, $t(85) = 5.092$, $p < .001$, $d = 1.087$, perspective taking, $t(85) = 2.53$, $p = .013$, $d = .55$, and empathic concern, $t(85) = 2.27$, $p = .026$, $d = .48$. Contrary to hypothesis, no group differences emerged on personal distress, $t(85) = .57$, $p = .57$, $d = .12$. See Graph 3 for a visual representation of these results.

Graph 3

Group Differences on Empathy Subscales



Gender also interacted with empathy subscale, $F(3, 249) = 2.92$, $p = .035$, $\eta_p^2 = .034$, and there was a three-way interaction of empathy subscale, group, and gender, $F(3, 249) = 2.81$, $p = .040$, $\eta_p^2 = .033$. Table 3 shows the mean scores of the gender and group subgroups (i.e., female actors, male actors, female non-actors, and male non-actors) on empathy subscales. (Note that no gender differences were found on any of the other measures.)

Table 3

Mean Scores (Standard Deviations) of Gender and Group Subgroups on Empathy Subscales

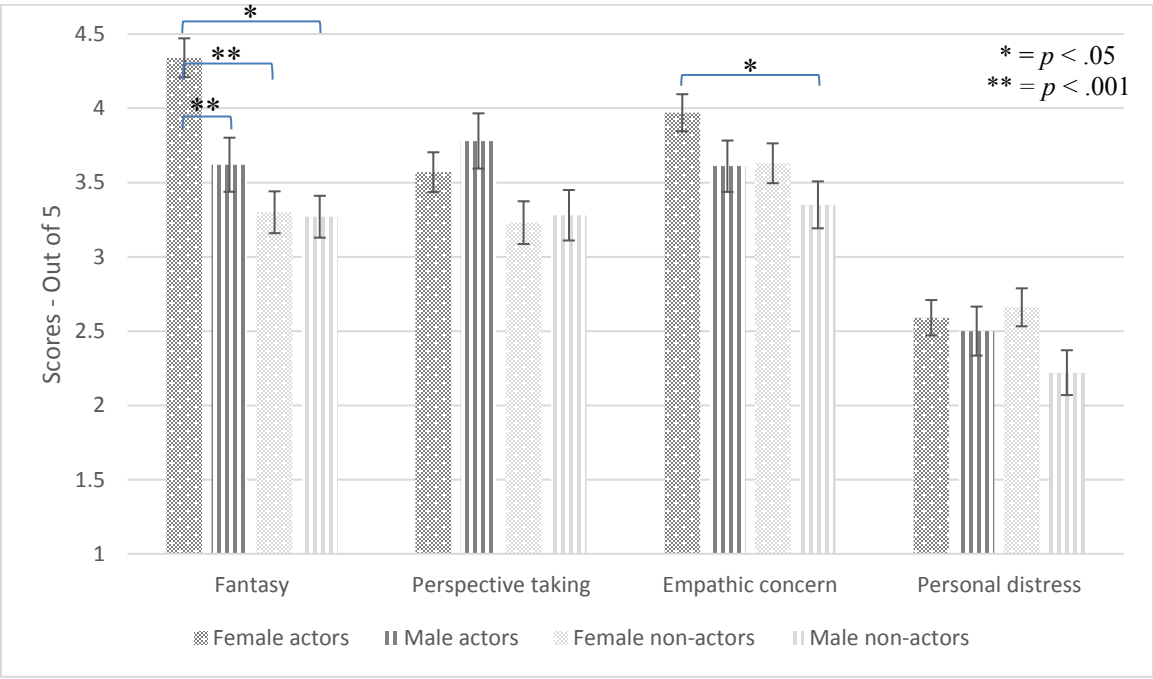
	Female Actors	Male Actors	Female Non-actors	Male Non-actors
Fantasy	4.34 (*.49*)	3.62 (*.54*)	3.30 (*.88*)	3.27 (*.82*)
Perspective taking	3.57 (*.78*)	3.78 (*.80*)	3.23 (*.69*)	3.28 (*.58*)
Empathic concern	3.97 (*.72*)	3.61 (*.52*)	3.63 (*.63*)	3.35 (*.75*)
Personal distress	2.59 (*.67*)	2.50 (*.51*)	2.66 (*.75*)	2.22 (*.75*)

To explore the three-way interaction, I performed four ANOVAs by subgroup (4 levels: female actors, male actors, female non-actors, and male non-actors) with each of the four empathy subscales as the dependent variable. The ANOVA with the empathy subscale of fantasy yielded a significant effect of subgroup, $F(3, 83) = 12.96$, $p < .001$, $\eta_p^2 = .32$. LSD post hoc pairwise comparisons revealed that female actors scored higher than male actors ($p = .002$, $d = 1.40$), female non-actors ($p < .001$, $d = 1.46$), and male

non-actors ($p < .001$, $d = 1.58$). Additionally, the ANOVA with the empathy subscale of empathic concern yielded a significant effect of subgroup, $F(3, 83) = 3.36$, $p = .023$, $\eta_p^2 = .11$. LSD post hoc pairwise comparisons revealed that female actors scored higher than male non-actors ($p = .003$, $d = .84$). None of the other two ANOVAs reveled a significant effect of subgroup: perspective taking, $F(3, 83) = 2.40$, $p = .073$, $\eta_p^2 = .080$; personal distress, $F(3, 83) = 1.85$, $p = .15$, $\eta_p^2 = .063$. Thus, female actors scoring high on the empathy subscales of fantasy and empathic concern carried the effect of the three-way interaction of empathy subscale, group, and gender. See Graph 4 for a visual representation of these results.

Graph 4

Subgroup Differences on Empathy Subscales

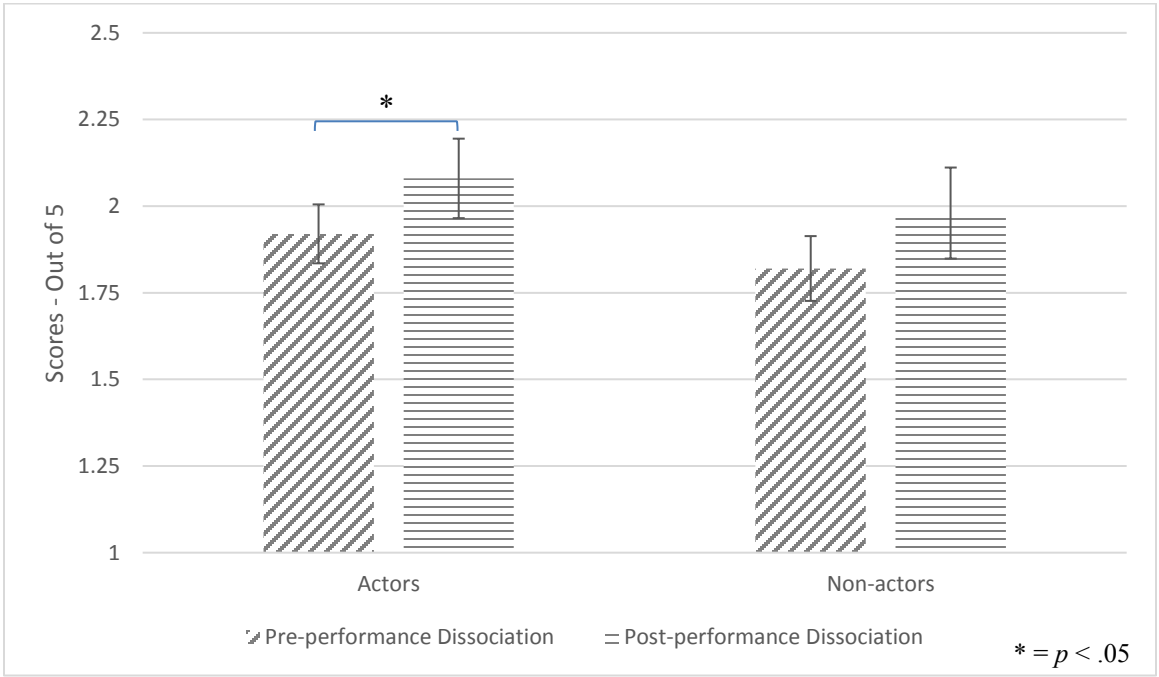


3.2 Results for Hypothesis 2

To examine the hypothesis that the dissociation scores of actors and non-actors increase after the monologue performance, I performed two paired samples *t*-tests. Consistent with hypothesis, dissociation increased in actors, $t(43) = 2.09$, $p = .042$, $d = .25$. Contrary to hypothesis, however, it only had a marginally significant increase in non-actors, $t(42) = 1.77$, $p = .083$, $d = .22$. See Graph 5 for a visual representation of these results.

Graph 5

Pre- and Post-performance Dissociation per Group



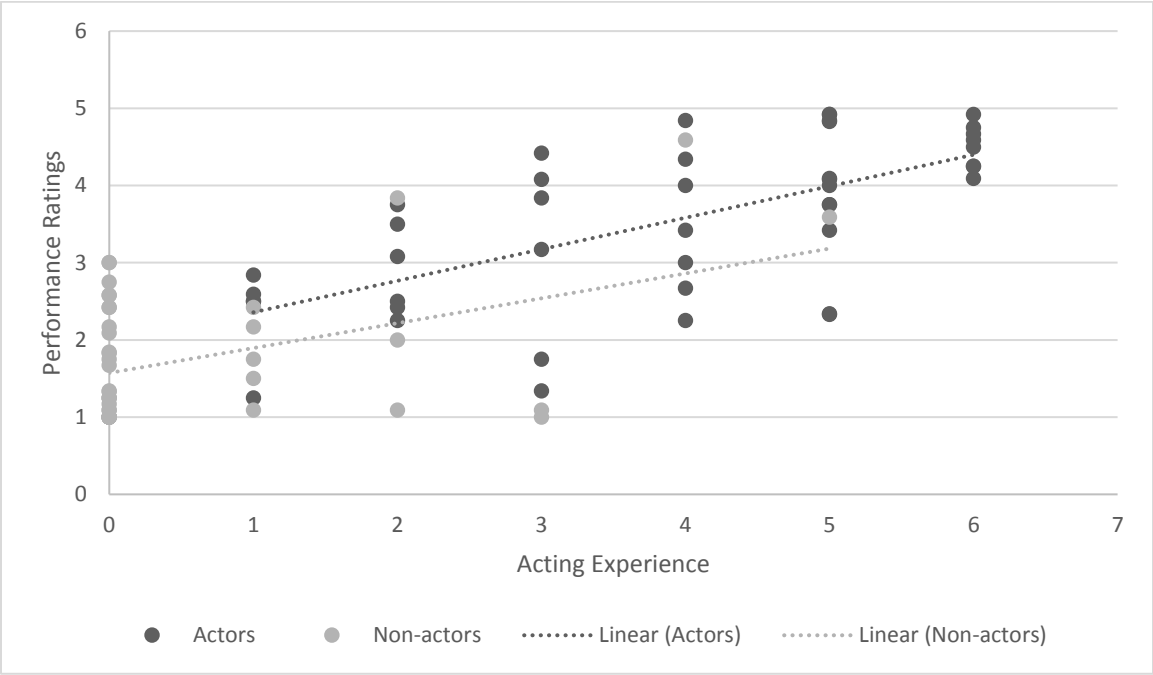
3.3 Results for Hypothesis 3

To examine the hypothesis that performance ratings are predicted by acting experience, post-performance dissociation, overall flow, and overall empathy, over and above the mean time taken to prepare the monologue for performance, I conducted three multiple regression analyses – one including all participants and one for each group separately.

A linear multiple regression analysis including all participants was performed regressing acting experience, post-performance dissociation, overall flow, overall empathy, and the mean time taken to prepare the monologue for performance on the dependent variable of performance ratings. The regression was significant, $F(5,78) = 32.67$, $p < .001$, $R^2 = .68$. Acting experience was the only significant predictor ($\beta = .68$, $t = 9.45$, $p < .001$), explaining 36.97% of the variance over and above the other predictors. Scatterplot 1 demonstrates the relationships between performance ratings and acting experience across actors and non-actors, and reveals outliers in the non-actors (which were maintained in all analyses).

Scatterplot 1

Relationship between Performance Ratings and Acting Experience across Group



Since acting experience and group were strongly correlated ($r = .75$, $p < .001$), I conducted the same analysis for each group separately – acting experience, post-performance dissociation, overall flow, overall empathy, and the mean time taken to prepare the monologue for performance were regressed on to performance ratings. For actors, the regression was significant, $F(5,37) = 6.78$, $p < .001$, $R^2 = .48$. Again, acting experience was the only significant predictor ($\beta = .68$, $t = 5.66$, $p < .001$), explaining 45.29% of the variance over and above the other predictors. For non-actors, the regression was also significant, $F(5,35) = 4.19$, $p = .004$, $R^2 = .38$. Once more, acting experience was the only significant predictor ($\beta = .38$, $t = 2.71$, $p = .010$), explaining 13.10% of the variance over and above the other predictors. Contrary to hypothesis, these

results show that the participants' self-reported experiences of dissociation, flow, and empathy, and the time they took to prepare the monologue for performance did not independently predict the performance ratings given to them.

3.3.1 Exploratory post hoc analysis for hypothesis 3. Since performance ratings and acting experience were strongly correlated ($r = .79$, $p < .001$), I conducted the same analyses without acting experience as a predictor variable. This was first done for all participants and then for each group separately. A linear multiple regression analysis including all participants was performed regressing post-performance dissociation, overall flow, overall empathy, and the mean time taken to prepare the monologue for performance on the dependent variable of performance ratings. The regression was significant, $F(4, 79) = 8.74$, $p < .001$, $R^2 = .31$. Overall flow was a significant predictor ($\beta = .30$, $t = 2.99$, $p = .004$), explaining 7.90% of the variance over and above the other predictors. Overall empathy was also a significant predictor ($\beta = .22$, $t = 2.20$, $p = .031$), explaining 4.24% of the variance over and above the other predictors. The mean time taken to prepare the monologue for performance was also a significant predictor ($\beta = .30$, $t = 3.13$, $p = .002$), explaining 8.58% of the variance over and above the other predictors. However, post-performance dissociation was not a significant predictor ($\beta = .083$, $t = .86$, $p = .39$). Thus, without acting experience in the analysis, overall flow, overall empathy, and the mean time taken to prepare the monologue for performance independently predicted performance ratings.

To examine how the flow subscales contributed to performance ratings in all participants, a linear multiple regression analysis was performed regressing the nine flow subscales on the dependent variable of performance ratings. The regression was

significant, $F(9, 77) = 3.61$, $p < .001$, $R^2 = .30$. Only the flow subscale of challenge-skill balance was significant ($\beta = .34$, $t = 2.43$, $p = .017$), explaining 5.38% of the variance over and above the other predictors.

To examine how the empathy subscales contributed to the performance ratings in all participants, a linear multiple regression analysis was performed regressing the four empathy subscales on the dependent variable of performance ratings. The regression was significant, $F(4,82) = 5.30$, $p < .001$, $R^2 = .21$. Only the empathy subscale of fantasy was a significant predictor ($\beta = .38$, $t = 3.37$, $p = .001$), explaining 11.02% of the variance over and above the other predictors.

Next, I conducted the same analysis for each group separately – post-performance dissociation, overall flow, overall empathy, and the mean time taken to prepare the monologue for performance were regressed on to performance ratings. For actors, the regression was not significant, $F(4,38) = .25$, $p = .91$, $R^2 = .025$. For non-actors, the regression was significant, $F(4,36) = 2.90$, $p = .036$, $R^2 = .24$. Overall flow was the only significant predictor ($\beta = .33$, $t = 2.16$, $p = .037$), explaining 9.80% of the variance over and above the other predictors. To examine how the flow subscales explained this result for non-actors, a linear multiple regression analysis was performed regressing the nine flow subscales on the dependent variable of performance ratings. However, the regression was not significant, $F(9, 33) = 1.52$, $p = .18$, $R^2 = .29$.

3.4 Additional Post Hoc Analysis

To explore what factors change along with increases in acting experience, I constructed a bivariate correlation matrix using all participants' scores on acting experience, pre- and post-performance dissociation, overall flow, overall empathy, the

empathy subscale of fantasy, and the mean time taken to prepare the monologue for performance. Acting experience was positively correlated with overall flow, (r = .34, p = .001), overall empathy, (r = .25, p = .018), the empathy subscale of fantasy, (r = .42, p < .001), and the mean time taken to prepare the monologue for performance (r = .29, p = .007), but not with either pre- (r = -.013, p = .91) or post-performance dissociation (r = .009, p = .93).

4.0 Discussion

This dissertation examined three characteristics of acting students that may enable them to reach the goal set by acting teacher Sanford Meisner for actors of "living truthfully under imaginary circumstances" (Meisner & Longwell, 1987): dissociation, flow, and empathy. It also examined the extent to which these characteristics contributed to "good acting," as rated by independent observers. When actors act, they seem to some extent to dissociate from themselves. This ability may be helpful in merging with the personality traits of characters, but it may also involve suffering pathological dissociation. Through intense engagement, flow could also allow actors to immerse themselves fully in a performance, without the potential negative counterparts of dissociation. Empathy may contribute to acting abilities because acting requires that actors understand the psychological and emotional states of their characters. The current study adds new insights into the psychology of acting, whose literature is surprisingly sparse in comparison to psychological research on other art forms.

4.1 How Do Acting and Non-acting Students Differ in Dissociation, Flow, and Empathy?

Acting students scored higher than non-acting students on flow (and some flow subscales) and empathy (and some empathy subscales), as predicted, but not on baseline dissociation. However, dissociation in acting students increased from before the performance to immediately after it.

4.1.1 Dissociation. No group differences emerged on pre-performance (baseline) levels of dissociation. This result is seemingly inconsistent with those in Thomson and Jaque (2011, 2012) and Panero et al. (2015), in which actors (professional and student)

scored significantly higher than non-actors on dissociation. This discrepancy, however, may be due to the different measures used. The previous studies asked actors to complete the Dissociative Experiences Scale-II (DES-II; Carlson & Putnam, 1993) to reflect on dissociation that occurred days, weeks, or months previously. Retrospective thinking may lead to erred or biased responding. To an actor, the items on the DES-II could seem to describe experiences that are encouraged in acting classes, such as becoming so involved in a fantasy that it feels real. Perhaps actors have a response bias towards questions that they think indicate good acting. Additionally, the DES-II measures both pathological and non-pathological dissociation, and the results in Panero et al. (2015) and Thomson and Jaque (2012) were driven mainly by non-pathological dissociation. In contrast, the current study used the Peritraumatic Dissociative Experiences Questionnaire (PDEQ; Marmar, Metzler, & Otte, 2004; Marmar, Weiss, & Metzler, 1998) to question acting students solely on any pathological dissociation they were experiencing in the moment. Thus, no direct comparisons can be made between the current study and previous ones. Future research could investigate how to best capture the dissociative experiences of actors, both while acting and during daily activities.

Although acting and non-acting students had similar levels of dissociation before performing the monologue, an interesting and potentially revealing finding did emerge. The fact that acting students reported higher levels of dissociation immediately after the performance compared to at baseline suggests that acting students do dissociate more than non-acting students as they step into the shoes of a character. This increase in acting students' dissociation post-performance seems to contradict the findings in Panero et al (2015) that showed no changes in acting students' DES-II responses after a six-month

period of conservatory acting training. Unlike the DES-II, however, the PDEQ was designed to measure symptoms of dissociation immediately following a dissociation-inducing event. Nevertheless, since the increase of dissociation in acting students during the current study yielded a small effect size (d = .25), no definitive interpretation of the results can be drawn. Furthermore, non-acting students did not report heightened levels of dissociation post-performance (although there was a trend in that direction). If the mere act of acting truly leads to dissociation, then everyone who attempts to act should immediately dissociate. The fact that the non-acting students did not increase in dissociation has two possible explanations: (1) not everyone who attempts to act immediately dissociates because dissociation is learned in acting training, or (2) acting leads to dissociation only in those with a pre-disposition towards dissociation (e.g., acting students). Future research could parallel the work done with visual art education (Hetland, Winner, Veenema, & Sheridan, 2007) and music education (Hogan & Winner, in press) to investigate the habits of mind taught in acting classes and determine whether acting training promotes dissociation.

4.1.2 Flow. Consistent with Martin and Cutler (2002) and Allen (2001), acting students' flow was driven by autotelic experience (i.e., intrinsically rewarding experience), challenge-skill balance (i.e., personal skills meet the demands of the challenge), loss of self-consciousness, and clear goals. These findings suggest that the *Bird of Prey* monologue chosen for this study was challenging enough to be neither too boring nor too frustrating, and thus the acting students were not self-conscious about their performance. They were able to set clear goals for their acting and enjoyed the experience. Also consistent with Martin and Cutler (2002), transformation of time (i.e.,

the seeming of slowing or speeding up of time) and unambiguous feedback (i.e., knowledge that the activity is on track towards the goal) were not particularly important for the acting students' flow to occur. These findings are, however, inconsistent with Allen (2001) and Panero et al. (2015) who did find evidence of these components of flow in actors. These inconsistencies may be due to differences in the samples. Allen (2001) studied professional actors and Panero et al. (2015) studied acting students in a conservatory training program. In contrast, the current study examined non-conservatory acting students – hence likely less trained and less skilled actors. Nevertheless, all of the studies do converge in showing that acting students do not experience flow in terms of sense of control, concentration on the task at hand (i.e., intense absorption), or action-awareness merging (i.e., feelings of being one with the activity). Future research could investigate whether teaching acting techniques to non-actors would help them to have more positive peak experiences during specific activities.

4.1.3 Empathy. The finding that acting students reported higher levels of trait empathy in their everyday lives (not necessarily towards their characters) than non-acting students are consistent with Nettle (2006) and Goldstein et al. (2009-2010). It is also consistent with famous actress Claire Danes believing her career to be that of a "professional empath" (Galanes, 2015). The subscale results revealed that the acting students' trait empathy was comprised of all three types of empathy: emotional empathy (as measured by the fantasy subscale – tendency to imaginatively transpose the self into the feelings and actions of fictitious characters), cognitive empathy (as measured by the perspective taking subscale – tendency to adopt the psychological point of views of others), and compassionate empathy (as measured by the empathic concern subscale –

feelings of sympathy and concern for others). Perhaps acting demands that actors make use of fantasy, perspective taking, and empathic concern to connect with a character. Female acting students, specifically, scored higher than all other participants on fantasy. They also scored higher on empathic concern than male non-acting students. Because Davis (1980) has established that females score higher than males on all of the empathy subscales, it is surprising that female acting students did not score higher than other participants on perspective taking. Not surprisingly, however, acting students did not score high on personal distress (feelings of anxiety in tense interpersonal situations, possibly indicating inferior emotion regulation skills). This finding provides evidence for the assumption of some researchers that actors are experts in emotion regulation skills (Ekman, Levenson & Friesen, 1983; Futterman, Kemeny, Shapiro & Fahey, 1994; Pelletier, Bouthillier, Levesque, Carrier, Breault, Paquette, Mensour, Leroux, Beaudion, Bourgouin & Beauregard, 2003). Future research could develop protocols for non-actors to improve their empathic abilities using acting techniques.

4.2 What Predicts Performance Ratings?

As one might have predicted, acting students scored higher than non-acting students on performance ratings, demonstrating that the acting students differed from the non-acting students in acting ability. What predicted stronger performance ratings for acting and non-acting students alike? When acting experience was included as a predictor along with post-performance dissociation, overall flow, overall empathy, and the mean time taken to prepare the monologue for performance, only acting experience significantly predicted performance ratings for all participants, as well as for each group separately. Of course, acting students had more acting experience than did non-acting

students. Acting experience was also positively correlated with overall flow (in contrast to Martin and Cutler [2002] who did not find a correlation with years of experience and flow), overall empathy, the empathy subscale of fantasy, and the mean time taken to prepare the monologue for performance, but not with either pre- or post-performance dissociation. Future research could examine whether performance ratings of actors matched in experience are predicted by dissociation, flow, empathy, and/or performance preparation time.

Because acting experience so strongly correlated with performance ratings, I tested the predictive power of post-performance dissociation, overall flow, overall empathy, and the mean time taken to prepare the monologue for performance, without acting experience. The exploratory post hoc analysis showed that overall flow, overall empathy, and the mean time taken to prepare the monologue for performance each independently predicted performance ratings for all participants. Post-performance dissociation was not a significant predictor, which was unsurprising due to dissociation's non-significant role in the previous analyses. However, the participants who spent more time preparing performed better, which fits with the old adage "practice makes perfect".

The overall flow and empathy results were carried by one subscale from each of the measures: challenge-skill balance for flow (i.e., personal skills meet the demands of the challenge) and fantasy for empathy (i.e., tendency to imaginatively transpose the self into the feelings and actions of fictitious characters). The empathy subscale result seems reasonable because the ability to imaginatively transpose the self into the feelings and actions of fictitious characters also sounds like a definition of acting. The flow subscale finding shows that, as in the findings described above and as in previous research (Martin

& Cutler, 2002), challenge-skill balance was particularly important for successful acting performances. Furthermore, when each group was analyzed separately, only overall flow independently predicted performance ratings for non-acting students. (No significant predictors emerged when acting students were explored separately.) These results provide support for the assertion that flow can occur during any kind of activity, regardless of the level of complexity, but only when the skill level can meet the challenge (Csikszentmihalyi, 1975, 1996; Nakamura & Csikszentmihalyi, 2002). Future research could examine the causal direction of performance ratings with flow and empathy.

This dissertation researched an interesting population – actors. Actors constitute a population whose product we are eager to consume and whose lifestyle we often discuss with one another in person and on social media. The results reveal something about the personality traits of actors and something about how actors are affected by acting. Although results from small sample sizes should be subjected to replication, the large effect sizes achieved throughout this study indicate robust findings. I hope that this study will inspire more research on acting. After all, acting is not only universal among human cultures but is also uniquely human. Therefore, any theory of human nature needs to be able to account for why humans act, what it takes to do it, and how acting affects the actor. As Glenn Wilson, a research psychologist and opera singer, stated in his book *The Psychology of the Performing Arts* (1985), "If psychology is 'the science of behavior and experience' and theatre is 'a mirror to life' each should have something to offer the other… It is my belief that actors, singers, musicians, directors, even the theatre-going public, can benefit from a survey of what the life sciences have to say about performance,

while psychologists can equally profit from investigating what theatre tells about human nature."

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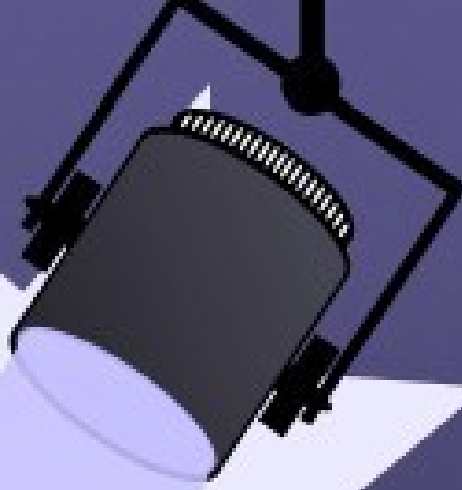
6.0 Appendices

6.1 Appendix A - Participant Recruitment Script and Flier

Would you like to participate in a study about acting? You would be getting great audition practice and compensated $20. All you have to do is come to McGuinn and perform a monologue that we give you at that time, in front of a camera. Then answer some questions about your experience. You will have 30 minutes to prepare the monologue, and it does not have to me memorized. Your recording will later be studied for different aspects of acting. Your participation and responses will be kept confidential.

GREAT AUDITION PRACTICE!



PARTICIPATE IN A STUDY ABOUT ACTING

All you have to do is go to the Boston College Arts and Mind Lab and perform a monologue that we give you at that time, in front of a camera. Then answer some questions about your experience. You will have 30 minutes to prepare the monologue, and it does not have to be memorized. Your recording will later be studied for different aspects of acting. You will get $20 for your time.

Your participation and responses will be kept confidential.
To secure your spot RSVP by April 28!

Erin Annunzie@ annunzie@

6.2 Appendix B - Sona Script

Study name: Understanding Acting

Study type: Standard (lab) study

Duration: 60 minutes

Credits: 1 Credit

Abstract: Participate in a study about acting.

6.3 Appendix C - Participant Consent Forms for Actors and Non-actors

Boston College Adult Consent Form
Arts and Mind Lab, Boston College Department of Psychology
Informed Consent to be in the study "Acting Moment"
Researchers: Maria Eugenia Panero and Dr. Ellen Winner

Introduction

- You are being asked to participate in a psychology research study about acting conducted by the Arts and Mind Lab of Boston College.
- You were selected to be in the study because you are an actor over 18 years old.
- Please read this form. Ask any questions that you may have before you agree to be in the study.

Purpose of Study:

- The purpose of this study is to understand what people experience while acting.
- The total number of people in this study is expected to be 200.

What will happen in the study:

- If you agree to be in this study, we would ask you to perform a monologue in front of a camera and answer several questions about your experience.
- You will have up to 30 minutes to prepare the monologue before being recorded. Memorization is not required.
- You will be allowed three "takes". If you feel that you have made a mistake during your performance, you will be allowed to start over twice.
- This study should take you no more than 60 minutes to complete.
- Your recording will later be rated by members of the Arts and Mind Lab.

Risks and Discomforts to Being in the Study:

- You may experience performance anxiety. Please remember that your performance rating and question responses will remain confidential, and that your name will not be disclosed to the raters. See section below on confidentiality.
- There may be risks unknown at this time, but this is unlikely.

Benefits to Being in the Study:

- You will benefit from this study by having the experience of an acting audition.

Payment:

- You will be compensated $20 for your participation.

Costs:

- There is no cost to you.

Confidentiality:

- The records of this study will be kept private. In any sort of report we may publish, we will not include any information that will make it possible to identify you. Research records will be kept in a locked file.
- All electronic information will be coded and secured using a password-protected file.
- Mainly just the researchers will have access to information; however, please note that a few other key people may also have access. These might include government agencies. Also, the Institutional Review Board at Boston College and internal Boston College auditors may review the research records.

Choosing to be in the study and choosing to quit the study:

- Choosing to be in this study is voluntary.
- You are free to quit at any time, for whatever reason.
- There is no penalty for not taking part or for quitting. You do not jeopardize grades or risk loss of present or future faculty/school/University relationships. The consequence of early withdrawal will be that you will receive pro-rated compensation, at the rate of $5 for every 15 minutes spent in this study.
- During the research process, you will be notified of any new findings from the research that may make you decide that you want to stop being in the study.

Getting Dismissed from the Study:

- The researcher may dismiss you from the study at any time for the following reasons: (1) it is in your best interests (e.g., side effects or distress have resulted), (2) you have failed to comply with the study rules, or (3) the study sponsor decided to end the study.

Contacts and Questions:

- For questions or more information concerning this research you may contact the researchers conducting this study - Maria Eugenia Panero at panero@bc.edu or Dr. Ellen Winner at winner@bc.edu.
- If you have any questions about your rights in this research study, you may contact: Director, Office for Research protections, Boston College, at 617-552-4778 or irb@bc.edu.

Copy of Consent Form:

- You will be given a copy of this form to keep for your records and future reference.

Statement of Consent:

- I have read (or have had read to me) the contents of this consent form.
- I have received answers to my questions.
- I have received a copy of this form to keep for my records and future reference.
- I give my consent to be in this study.

Signatures/Dates

Participant or Legal Representative Name and Signature: _____

Date _____

Researcher Name and Signature: _____

Date: _____

Boston College Adult Consent Form
Arts and Mind Lab, Boston College Department of Psychology
Informed Consent to be in the study "Acting Moment"
Researchers: Maria Eugenia Panero and Dr. Ellen Winner

Introduction

- You are being asked to participate in a psychology research study about acting conducted by the Arts and Mind Lab of Boston College.
- You were selected to be in the study because you are over 18 years old.
- Please read this form. Ask any questions that you may have before you agree to be in the study.

Purpose of Study:

- The purpose of this study is to understand what people experience while acting.
- The total number of people in this study is expected to be 200.

What will happen in the study:

- If you agree to be in this study, we would ask you to perform a monologue in front of a camera and answer several questions about your experience.
- You will have up to 30 minutes to prepare the monologue before being recorded. Memorization is not required.
- You will be allowed three "takes". If you feel that you have made a mistake during your performance, you will be allowed to start over twice.
- This study should take you no more than 60 minutes to complete.
- Your recording will later be rated by members of the Arts and Mind Lab.

Risks and Discomforts to Being in the Study:

- You may experience performance anxiety. Please remember that your performance rating and question responses will remain confidential, and that your name will not be disclosed to the raters. See section below on confidentiality.
- There may be risks unknown at this time, but this is unlikely.

Benefits to Being in the Study:

- You will benefit from this study by having the experience of an acting audition.

Payment:

- You will receive one research participation credit on SONA. It will be credited to you directly after your completion of the study.

Costs:

- There is no cost to you.

Confidentiality:

- The records of this study will be kept private. In any sort of report we may publish, we will not include any information that will make it possible to identify you. Research records will be kept in a locked file.
- All electronic information will be coded and secured using a password-protected file.
- Mainly just the researchers will have access to information; however, please note that a few other key people may also have access. These might include government agencies. Also, the Institutional Review Board at Boston College and internal Boston College auditors may review the research records.

Choosing to be in the study and choosing to quit the study:

- Choosing to be in this study is voluntary.
- You are free to quit at any time, for whatever reason.
- There is no penalty for not taking part or for quitting. You do not jeopardize grades or risk loss of present or future faculty/school/University relationships. The consequence of early withdrawal will be that you will receive pro-rated research credit, at the rate of .5 research credit for every 15 minutes spent in this study.
- During the research process, you will be notified of any new findings from the research that may make you decide that you want to stop being in the study.

Getting Dismissed from the Study:

- The researcher may dismiss you from the study at any time for the following reasons: (1) it is in your best interests (e.g., side effects or distress have resulted), (2) you have failed to comply with the study rules, or (3) the study sponsor decided to end the study.

Contacts and Questions:

- For questions or more information concerning this research you may contact the researchers conducting this study - Maria Eugenia Panero at panero@bc.edu or Dr. Ellen Winner at winner@bc.edu.
- If you have any questions about your rights in this research study, you may contact: Director, Office for Research protections, Boston College, at 617-552-4778 or irb@bc.edu.

Copy of Consent Form:

- You will be given a copy of this form to keep for your records and future reference.

Statement of Consent:

- I have read (or have had read to me) the contents of this consent form.
- I have received answers to my questions.
- I have received a copy of this form to keep for my records and future reference.
- I give my consent to be in this study.

Signatures/Dates

Participant or Legal Representative Name and Signature: _____

Date _____

Researcher Name and Signature: _____

Date: _____

6.4 Appendix D - Monologue Assigned to Participants for Performance

A Bird of Prey
by Jim Grimsley

The Play: A modern tragedy set in a large city in California where the young people face good and evil on their own terms, with calamitous consequences. When Monty's dysfunctional family moves to a complex urban environment from rural Louisiana, Monty attempts to find genuine faith, while at the same time struggling to shield his younger siblings from the temptation and danger they encounter everywhere.

Time and Place: The 1990s. An Unnamed City.

***The Scene:** A local boy, Corvette, has been missing for a few days. No one knows where he is or what happened, although speculation amongst his contemporaries is wild, especially from Donna, who is a close friend of Corvette and who feels she knows more than the others. In the first speech, Donna shares her innermost fears.*

• • •

DONNA: It's me now. I'm the one. I have to hurry because Hilda and Tracey are coming soon, but I'm here. I guess I'm praying you know? I don't guess anybody's there but I'm talking to somebody. We need help. *(Pause.)* You know who I mean. All of us. *(Pause.)* I feel like I really am talking to somebody, like somebody really is there. You know? Do you get that feeling sometimes? That you're speaking in a room where you're absolutely alone except there is somebody with you, invisible. Who hears everything you say. I wish that were true. *(Pause.)* I know things nobody else knows. *(Pause.)* I kept watching Corvette those last few days. I talked to him. I know he's dead now, I know he didn't just run away, and I keep thinking about that last conversation. I talked to him and he seemed like he was burning up with something. He had met somebody. He talked about this man. Just for a minute. This older guy. And when he did his eyes, they were like, I don't know. Like prey. Like he was watching something swoop down on him, and he wanted it. He wasn't scared, but he was hooked on something, not a drug but something else, a feeling. He wouldn't say much, and then he tried to act normal again, and when I asked him a question about this man he just laughed. But I was so scared, because of the look in his eyes. Like he would be killed in the next second and he wanted it. And right then I wondered what his life had been like, to make him feel like that. He had lived on my street forever, he was my neighbor since he was a kid, and all of a sudden I felt like I hardly knew him. And he went away with Thacker and I never saw him again. But when I heard he had disappeared, I knew. *(Pause.)* I never told anybody I talked to him. When I close my eyes I can still see the look on his face. *(Pause.)* It's the way Monty looks, sometimes. Like there's somebody waiting for him, too. *(Pause.)* I know he talks to somebody, when he's alone; I know he's not embarrassed to call it praying, like I am. But he needs it. Somebody's got to help him, if he's going to escape. Somebody.

6.5 Appendix E - The Peritraumatic Dissociative Experiences Questionnaire (Marmar, Metzler, & Otte, 2004; Marmar, Weiss, & Metzler, 1998)

Instructions: Please complete the items below by selecting the choice that best describes your experience and reaction while acting, and immediately afterward. If an item does not apply to your experience, please select "Not at all true".

1. I had moments of losing track of what was going on – I “blanked out” or “spaced out” or in some way felt that I was not part of what was going on.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

2. I found that I was on “automatic pilot” – I ended up doing things that I later realized I hadn’t actively decided to do.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

3. My sense of time changed – things seemed to be happening in slow motion.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

4. What was happening seemed unreal to me, like I was in a dream or watching a movie or play.

1	2	3	4	5

Not at all true	Slightly true	Somewhat true	Very true	Extremely true

5. I felt as though I were a spectator watching what was happening to me, as if I were floating above the scene or observing it as an outsider.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

6. There were moments when my sense of my own body seemed distorted or changed. I felt disconnected from my own body or that it was unusually large or small.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

7. I felt as though things that were actually happening to others were happening to me – like I was being trapped when I really wasn't.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

8. I was surprised to find out afterward that a lot of things had happened at the time that I was not aware of, especially things I ordinarily would have noticed.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

9. I felt confused – that is, there were moments when I had difficulty making sense of what was happening.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

10. I felt disoriented – that is, there were moments when I felt uncertain about where I was or what time it was.

1	2	3	4	5
Not at all true	Slightly true	Somewhat true	Very true	Extremely true

6.6 Appendix F - The Event Experience Scale (FSS-2; Jackson & Eklund, 2004)

Instructions: Please answer the following questions in relation to your experience while acting. These questions relate to the thoughts or feelings you may have just experienced. There are no right or wrong answers. Think about how you felt during the activity and select the answer that best matches your experience.

1. I was challenged, but I believed my skills would allow me to meet the challenge.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

2. I made the correct movements without thinking about trying to do so.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

3. I knew clearly what I wanted to do.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

4. It was really clear to me how my performance was going.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

5. My attention was focused entirely on what I was doing.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

6. I had a sense of control over what I was doing.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

7. I was not concerned with what others may have been thinking of me.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

8. Time seemed to alter (either slowed down or speeded up).

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

9. I really enjoyed the experience.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

10. My abilities matched the high challenge of the situation.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

11. Things just seemed to be happening automatically.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

12. I had a strong sense of what I wanted to do.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

13. I was aware of how well I was performing.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

14. It was no effort to keep my mind on what was happening.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

15. I felt like I could control what I was doing.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

16. I was not concerned with how others may have been evaluating me.

1	2	3	4	5

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

17. The way time passed seemed to be different from normal.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

18. I loved the feeling of the performance and wanted to capture it again.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

19. I felt I was competent enough to meet the high demands of the situation.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

20. I performed automatically, without thinking too much.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

21. I knew what I wanted to achieve.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

22. I had a good idea while I was performing about how well I was doing.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

23. I had total concentration.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

24. I had a feeling of total control.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

25. I was not concerned with how I was presenting myself.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

26. It felt like time went by quickly.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

27. The experience left me feeling great.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

28. The challenge and my skills were at an equally high point.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

29. I did things spontaneously and automatically without having to think.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

30. My goals were clearly defined.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

31. I could tell by the way I was performing how well I was doing.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

32. I was completely focused on the task at hand.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

33. I felt in total control of my body.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

34. I was not worried about what other may have been thinking of me.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

35. I lost my normal awareness of time.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

36. I found the experience extremely rewarding.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

6.7 Appendix G - The Interpersonal Reactivity Index (Davis, 1980)

Instructions: The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate number: 1, 2, 3, 4, or 5. When you have decided on your answer, click the bubble under the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

1. I daydream and fantasize, with some regularity, about things that might happen to me.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

2. I often have tender, concerned feelings for people less fortunate than me.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

3. I sometimes find it difficult to see things from the “other guy’s” point of view.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

4. Sometimes I don’t feel very sorry for people when they are having problems.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

5. I really get involved with the feelings of the characters in a novel.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

6. In emergency situations, I feel apprehensive and ill-at-ease.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

8. I try to look at everybody's side of a disagreement before I make a decision.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

9. When I see someone being taken advantage of, I feel kind of protective towards them.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

10. I sometimes feel helpless when I am in the middle of a very emotional situation.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

11. I sometimes try to understand my friends better by imagining how things look from their perspective.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

12. Becoming extremely involved in a good book or movie is somewhat rare for me.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

13. When I see someone get hurt, I tend to remain calm.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

14. Other people's misfortunes do not usually disturb me a great deal.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

1	2	3	4	5

DOES NOT DESCRIBE ME WELL

DESCRIBES ME VERY WELL

16. After seeing a play or movie, I have felt as though I were one of the characters.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL

DESCRIBES ME VERY WELL

17. Being in a tense emotional situation scares me.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL

DESCRIBES ME VERY WELL

18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL

DESCRIBES ME VERY WELL

19. I am usually pretty effective in dealing with emergencies.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL

DESCRIBES ME VERY WELL

20. I am often quite touched by things that I see happen.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL

DESCRIBES ME VERY WELL

21. I believe that there are two sides to every question and try to look at them both.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL — DESCRIBES ME VERY WELL

22. I would describe myself as a pretty soft-hearted person.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL — DESCRIBES ME VERY WELL

23. When I watch a good movie, I can very easily put myself in the place of a leading character.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL — DESCRIBES ME VERY WELL

24. I tend to lose control during emergencies.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL — DESCRIBES ME VERY WELL

25. When I'm upset at someone I usually try to "put myself in his shoes" for a while.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL — DESCRIBES ME VERY WELL

26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

1 2 3 4 5

DOES NOT DESCRIBE ME WELL — DESCRIBES ME VERY WELL

27. When I see someone who badly needs help in an emergency, I go to pieces.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

1	2	3	4	5
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

6.8 Appendix H - Demographic and Acting Experience Questionnaire

1. Please write your age below.

2. Select the gender with which you most identify

   Male

   Female

3. Have you ever studied the play *A Bird of Prey* by Jim Grimsley?

   Yes

   No

4. If yes, please explain (for example, I've read it by myself or in a classroom, I played Donna in high school, etc.).

   If no, type N/A.

5. Have you ever acted in a formal production (for example, in a play, movie, etc.)?

   Yes

   No

6. If yes, list the character and production names (for example, Munchkin2 in The Wiz)

   If no, type N/A.

7. Have you taken acting classes?

   Yes

   No

8. If yes, list the name and duration of each (for example, Beginning Acting 1 for 12 weeks).

   If no, type N/A.

9. Two predominant styles of acting are (1) involvement/Method acting that emphasizes an "inside-out" approach in which the actor *should* feel the emotions of the character, and (2) detachment / technique acting that emphasizes an "outside-in" approach in which the actor should *not necessarily* feel the emotions of the characters but just adopt the character's behaviors.

   Describe all (if any) acting styles that you use.

   If this does not apply to you, type N/A.

10. Actors have many ways of "finding" their character. Some use biographical memories, props, costumes, movement, etc.

    Describe how you typically find your character.

    If this does not apply to you, type N/A.

11. Describe the differences (if any) between the emotions that you experience while acting during rehearsal / during a performance / during acting class / during an audition.

If this does not apply to you, type N/A.

12. Sometimes actors feel a sense of boundary blurring between themselves and a character, meaning there is no longer a clear separation between themselves and the characters they enact.

    Describe the instances (if any) where this has happened to you.

    If this does not apply to you, type N/A.

6.9 Appendix I - Rating Dimensions

Instructions: Read the statements below and rate how strongly you agree with each one. 1 means you do not agree at all with the statement. 5 means you agree very strongly with the statement.

1. This actor seemed to really "become" the character.

1	2	3	4	5
Do not agree at all				Agree very strongly

2. This actor seemed fully absorbed in acting this role.

1	2	3	4	5
Do not agree at all				Agree very strongly

3. This actor was believable as the character.

1	2	3	4	5
Do not agree at all				Agree very strongly

4. I would like to see a performance with this person as the lead actor.

1	2	3	4	5
Do not agree at all				Agree very strongly

5. I felt empathic towards the character this actor portrayed.

1	2	3	4	5

Do not agree at all Agree very strongly

6. I would rate this actor as excellent, overall.

1 2 3 4 5

Do not agree at all Agree very strongly

6.10 Appendix J - Additional Consent Form for All Participants

Boston College Adult Consent Form
Arts and Mind Lab, Boston College Department of Psychology
Informed Consent to allow continued use of recording
Researchers: Maria Eugenia Panero and Dr. Ellen Winner

Introduction

- You are being asked to allow the Arts and Mind Lab of Boston College to use a recording of you for future studies.
- You were selected because you previously participated in the study "Acting Moment".
- Please read this form. Ask any questions that you may have before you sign.

Purpose of Study:

- The purpose of using the recording of you in future studies will be to attain a better understanding of acting.
- The total number of people in future studies is unknown at this time.

What will happen in the study:

- If you agree to be in this study, we would ask you to allow us to utilize the recording of you performing a monologue for any future studies.
- This will not require any more of your time.

Risks and Discomforts to Being in the Study:

- Since you will not be present in future studies, your risk or discomfort is unknown at this time.

Benefits to Being in the Study:

- You will benefit from this study by furthering the science of acting.

Payment:

- No further compensation will be provided.

Costs:

- There is no cost to you.

Confidentiality:

- The records of this study will be kept private. In any sort of report we may publish, we will not include any information that will make it possible to identify you. Research records will be kept in a locked file.
- All electronic information will be coded and secured using a password-protected file.
- Mainly just the researchers will have access to information; however, please note that a few other key people may also have access. These might include government agencies. Also, the Institutional

Review Board at Boston College and internal Boston College auditors may review the research records.

Choosing to be in the study and choosing to quit the study:

- Choosing to allow us to use your recording for future studies is voluntary.
- You are free to revoke your permission at any time, for whatever reason.
- There is no penalty for not giving us permission or for revoking your permission. You do not jeopardize grades or risk loss of present or future faculty/school/University relationships.
- During the research process, you will be notified of any new findings from the research that may make you decide that you want to revoke your permission.

Getting Dismissed from the Study:

- The researcher may choose not to use the recording of you for the following reasons: (1) it is in your best interests (e.g., side effects or distress have resulted), or (2) your recording does not meet the needs of any future studies.

Contacts and Questions:

- For questions or more information concerning this research you may contact Maria Eugenia Panero at panero@bc.edu or Dr. Ellen Winner at winner@bc.edu.
- If you have any questions about your rights in this research study, you may contact: Director, Office for Research protections, Boston College, at 617-552-4778 or irb@bc.edu.

Copy of Consent Form:

- You will be given a copy of this form to keep for your records and future reference.

Statement of Consent:

- I have read (or have had read to me) the contents of this consent form.
- I have received answers to my questions.
- I have received a copy of this form to keep for my records and future reference.
- I give my consent to be in this study.

The recording of me may be uploaded online for research purposes. Circle your response below.
Yes No

Signatures/Dates

Participant or Legal Representative Name and Signature: _____
Date _____
Researcher Name and Signature: _____
Date: _____