



AT THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

## 2011-2012 ANNUAL REPORT

**The Medical Arts Program is an initiative of the University of Michigan Medical School and University Musical Society:**



**and the following campus partners:**



**The Medical Arts Program is made possible in part by a grant from:**

**Association of Performing Arts Presenters Creative Campus Innovations Grant Program, funded by the Doris Duke Charitable Foundation**

**and is supplemented by additional funds from:**

**Sanjay Saint, MD, MPH**

**James Stanley, MD**

**Joel Howell, MD, PhD**

**The University of Michigan Medical School Program in Society and Medicine**

# Executive Summary

Superb patient care requires much more than simply applying practice guidelines and insights from the natural sciences to the bodies of human beings. Excellent clinical medicine also includes an appreciation of the essential elements of humanity, a generous dose of empathy, and an understanding that the medical craft can be understood and practiced only within a specific social context.

One powerful way for clinicians to understand better the humanistic elements of healthcare is to consider the works of great artists in the musical, theatrical, literary, and visual arts. The arts can offer insight into the nexus between society and medicine with an intensity and fidelity that may be unavailable through other means. The Medical Arts Program intends to enhance medical students' and house officers' ability to provide high-quality clinical care through experiences with and analysis of the arts. To that end, The Medical Arts Program has four Specific Aims: (1) To develop a curriculum that enhances medical students' and house officers' ability to provide high-quality, humanistic clinical care through experiences and analysis of the musical, dramatic, and visual arts; (2) To evaluate the curriculum's success in improving clinical care; (3) To achieve sustainability of the curriculum by means of continued external funding; and (4) To disseminate the results of this program.

The University Musical Society and The Medical Arts program made substantial progress in fulfilling aims 1 and 3 when they were awarded a 21-month grant from the Association of Performing Arts Presenters Creative Campus Innovations Grant Program, funded by the Doris Duke Foundation, in August 2010. With this funding, we were able to continue this progress and to widen our focus to aims 2 and 4. Over the 2011-2012 academic year we proceeded to focus on aim 2 by developing and implementing a formal evaluation of the Program.

Eight Medical Arts events took place in the 2011-2012 academic year, with 115 participants (including faculty learners) across all events. We assessed each event using both qualitative and quantitative metrics. In brief, learners found that the discussions enhanced their appreciation of the art and noted the close connections between the events they attended and their own work as physicians.

Program staff made great progress toward attaining Program aim 2 by developing a mixed-methods tool to evaluate the Program's impact, a survey consisting of quantitative and qualitative portions. The pre-intervention survey was administered primarily in December 2011, while the post-intervention survey was administered primarily in May 2012, after the final Medical Arts event. To reduce potential selection bias in our subject pool, we recruited three groups stratified by their level of interest and participation in the Medical Arts Program events. A total of 103 subjects completed both the pre- and post-tests. We are currently in the process of analyzing the results of both the quantitative and qualitative portions of the survey.



*Learner at UMMA*

*"I definitely enjoyed the experience of having a curator-led tour led by the person who actually chose each piece in the exhibit. It brought insights and perspectives to the experience that I wouldn't have otherwise realized."*

-- From a learner who attended the UMMA program *Curator's Choice*

## **Introduction**

Superb patient care requires much more than simply the careful, rigorous application of practice guidelines and insights from the natural sciences to the bodies of human beings. Excellent clinical medicine also includes an appreciation of the essential elements of humanity, a generous dose of empathy, and an understanding that the medical craft can be understood and practiced only within a specific social context.

One powerful way for clinicians to understand better the humanistic elements of healthcare is to consider the works of great artists in the musical, theatrical, literary, and visual arts. Many of these artists addressed issues central to healthcare, such as human joy and suffering, pestilence and prosperity, and devotion and despair. Some artists have also grappled with the sorts of profound questions that so often come to the fore when people are ill, such as the purpose of life, while other

artists have powerfully reflected on their own sickness, disability, aging, and impending death. In short, the arts can offer insight into the nexus between society and medicine with an intensity and fidelity that may be unavailable through other means. The Medical Arts Program intends to enhance medical students' and house officers' ability to provide high-quality humanistic clinical care through experiences with and analysis of the musical, dramatic, and visual arts. To that end, the Medical Arts Program (Medical Arts) has four specific aims: (1) To develop a curriculum that enhances house officers' ability to provide high-quality, humanistic clinical care through experiences and analysis of the musical, dramatic, and visual arts; (2) To evaluate the curriculum's success in improving clinical care; (3) To achieve sustainability of the curriculum by means of continued external funding; and (4) To disseminate the results of this program.

The Medical Arts Program is supported in part by the Association of Performing Arts Presenters Creative Campus Innovations Grant Program, funded by the Doris Duke Charitable Foundation. We were delighted to receive this highly competitive grant in August 2010.

Our funding from the Doris Duke Charitable Foundation is supplemented by additional funds from Sanjay Saint, MD, MPH, James Stanley, MD, and Joel Howell, MD, PhD, and through the Medical School Program in Society and Medicine.



*Learners at the Art Institute of Chicago*

The Creative Campus Grant enabled us to expand the program to include opportunities for learners to interact with visiting and local artists. We were gratified by the outpouring of support from internationally prominent artists who see great value in working with medical learners. The award also

enabled us to enhance the quality of our evaluations. Over the course of the 2011-2012 academic year, we further documented the impact of the program on medical students and house officers. We also designed and applied a mixed methods approach to measure those effects, analysis of which is currently underway.

### The events

Eight Medical Arts events took place in the 2011-2012 academic year.

**Table 1: Medical Arts Events 2011-2012**

Event	Date	Venue	Speaker
Mark Morris Dance Group <sup>1</sup>	September 20, 21 & 24, 2011	Jewish Community Center; Rackham Graduate School; Power Center	Joel Howell, David Leventhal (former MMDG dancer, now Program Manager and founding teacher of Dance for PD), and John Heginbotham (MMDG dancer)
UMMA Tour/ Dinner <sup>2</sup>	October 5, 2011	University of Michigan Museum of Art (UMMA)	Ruth Slavin, UMMA Director of Education; Pam Reister, Associate Curator for Education
Rosemary Nixon	November 7, 2011	Grange Restaurant	Author Rosemary Nixon
Einstein on the Beach	January 20-23, 2012	Power Center (performance), Rackham Building (workshop, discussion & dinner)	Andrew Sterman, musician & Philip Glass Ensemble member
Wayne McGregor & Random Dance	February 17 and 18, 2012	Alumni Center (dinner & discussion) & Power Center (performance)	Random Dance artistic director Wayne McGregor
UMMA Visit – Recent Acquisitions: Curator’s Choice, Part I	March 13, 2011	University of Michigan Museum of Art (UMMA)	Carole McNamara, Senior Curator of Western Art at UMMA
San Francisco Symphony	March 23, 2012	Glass House Cafe at Palmer Commons (workshop, dinner & discussion), Hill Auditorium (performance)	Susan Key, teaching artist, San Francisco Symphony; actor David Prather
A Weekend of Culture in Chicago	April 27 – 29, 2012	Chicago Art Institute, Goodman Theater, boat tour of architectural sites	Museum educators from the Art Institute of Chicago

<sup>1</sup> For event program, see Appendix 1.

<sup>2</sup> For list of works of art discussed, see Appendix 2.



*Dr. Howell and learners at the Mark Morris Dance Group event*

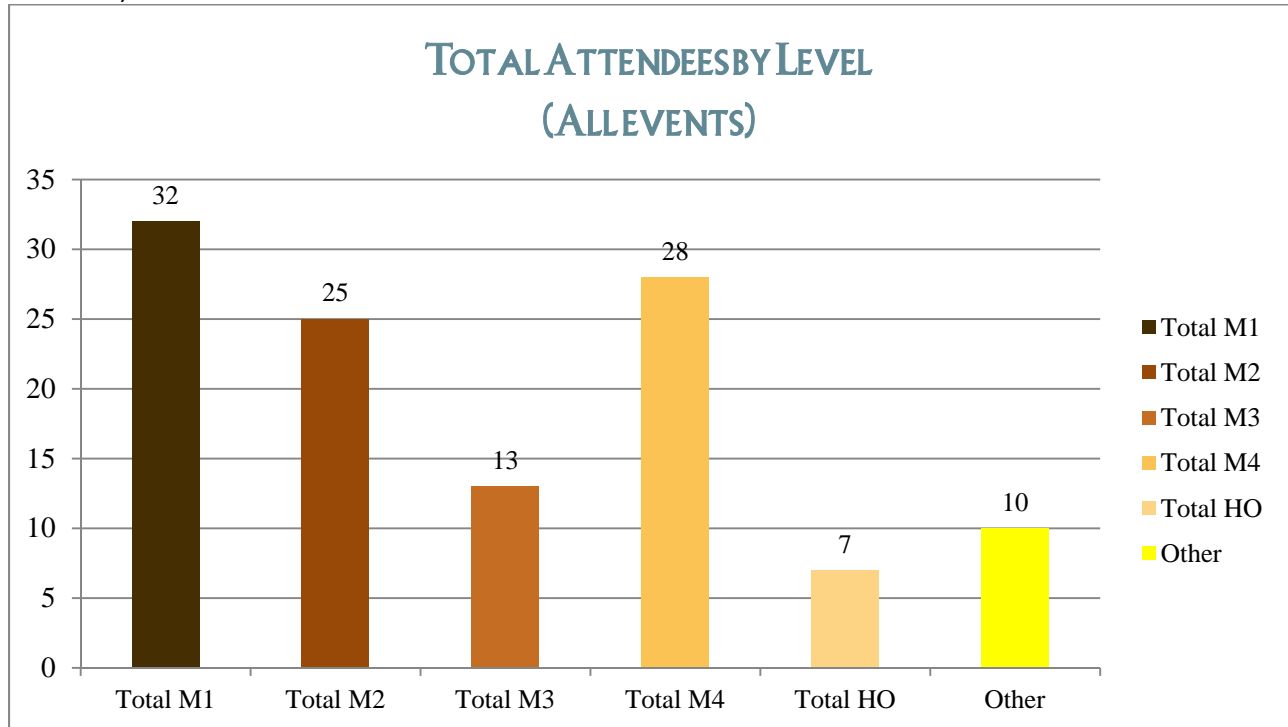
*“This program is incredible and I feel so fortunate it exists.”*

– From a learner who attended the Mark Morris Dance Group events

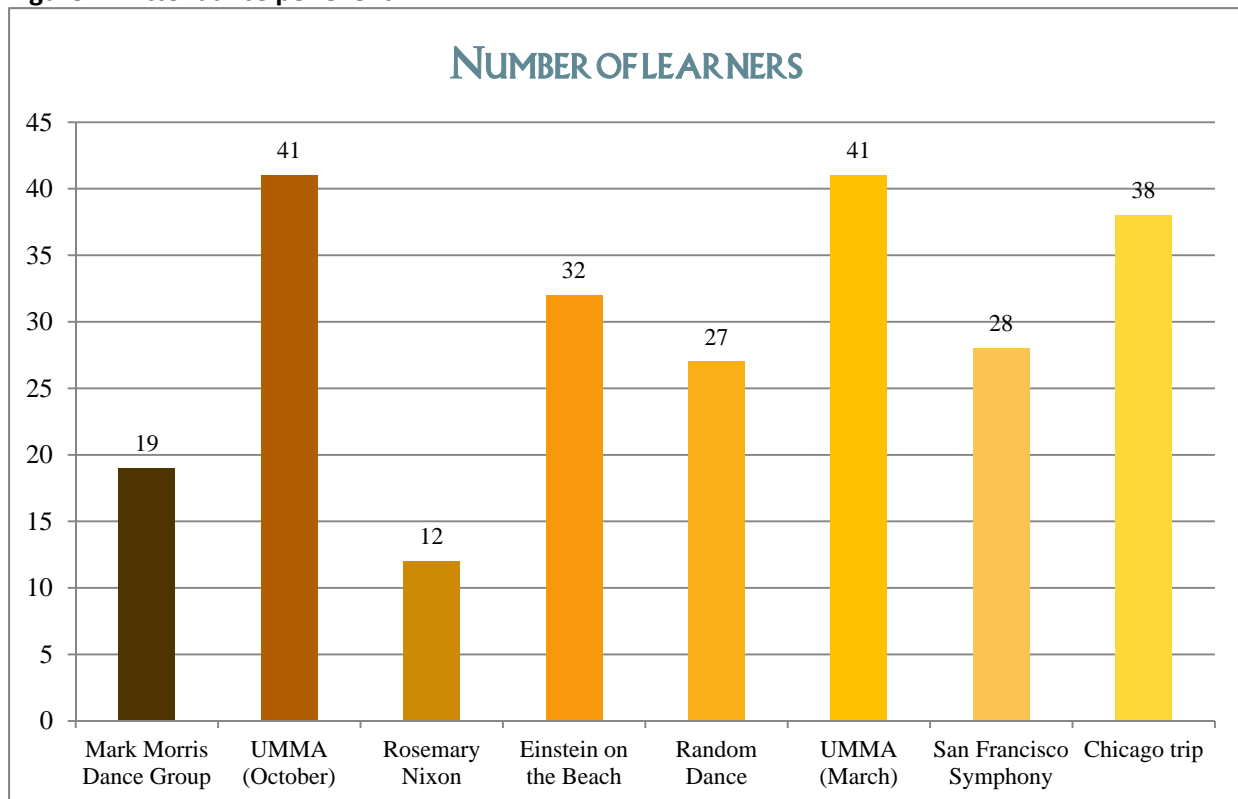
## **Attendance**

There were a total of 115 learners across all events, with many attending more than one event. While several attendees came to these events having had previous experience as an artist, often at a relatively high level, others were relatively new to the arts. Many events were hugely oversubscribed – we tried to allow as many people as possible to participate in at least one event. The following figures provide further detail on event attendance.

**Figure 1: Total Attendees By Level** (HO: House Officer; M4, M3, M2, M1: fourth-, third-, second, and first-year medical students. "Other" includes residents and Medical Scientist Training Program [MSTP] students.)



**Figure 2: Attendance per event**





## Evaluation activities

**Surveys:** Surveys were distributed to learners following each event. Open-ended questions asked of learners included:

- What part of the event did they enjoy the most or find the most valuable?
- What connections did they perceive between their experiences at the event and their work as a physician (or their medical school experiences)?
- (For concerts) What aspects of the concert did you find the most compelling, surprising, or moving? Why?
- (For museum visits) Did the event make them want to spend more time at the museum or another art museum?
- What suggestions did they have for future events?



*Learners at the workshop for the San Francisco Symphony event*

*The exercise was very much like an ER or an ICU. There is constantly noise, but one should try diligently to stay on task and to take in what is important, even if it's not the dominant sound.*

– Learner at the San Francisco Symphony event, on an exercise at the workshop

Multiple-choice and Likert scale questions inquired into topics including:

- Whether dinner and discussion with the artists enabled learners to have a deeper understanding of the event;
- Whether learners perceived relationships between the artists' performances or careers and their own work in medicine;

- To what extent learners thought the experience made them better physicians;
- What program formats learners were interested in; and
- What types of content they were interested in (dance, music, theater, book discussions, visual arts, or other)

We received a total of 107 evaluations. Below we offer some selected quotations from learners' qualitative responses:

From the UMMA exhibit "Multiple Impressions":

- "This is a fantastic program and Mike Michelon, Dr. Howell and Dr. Saint are doing the medical school and system at UM a tremendous service by creating these opportunities to attend various programming in the arts."
- "This exhibit was particularly evocative for me as an Asian-American. It made me think about how Asian art is interpreted in the US, and in doing so, made me think about how my Asian identity plays into my role as a future physician. Do my patients feel comfortable around me? Would they prefer a Caucasian physician?"
- "(A)ppreciating another culture, as we did through the discussion about and examination of Chinese woodblock prints, is incredibly useful for physicians who have to treat patients of multiple different ethnicities and cultural backgrounds."

From the Mark Morris Dance Group event:

- "The discussion helped illuminate the fact that PD (Parkinsons Disease) is very much a movement disorder disease and can be better understood by examining it under the lens of movement, as opposed to purely neurologic processes."
- "The panel helped me reimagine the way that a doctor should interact with a Parkinson's patient (or any other patient). In addition to addressing patients' limitations, I hope to also focus on their abilities and the ways that their illness do not limit them... As an aspiring physician, I hope to hone my ability to appreciate subtle physical expressions in order to develop diagnoses."

From the book discussion with Rosemary Nixon:

- "This is one of the first medically-themed books I've read after completing my M3 year, and for the first time I found myself identifying as much with the medical staff in the book as I did with the patients. My knee-jerk reaction upon reading Nixon's portrayal of doctors and nurses was somewhat defensive. I struggled with what that meant for me and my relationship with my own patients. I had to take a step back to examine this new reaction and think about how medical training has changed my ability to relate to patients. This self-examination was important for me. "



*Learners on the architectural tour by boat of Chicago*

Learners perceived connections between the event and medicine:

- “(M)aintaining autonomy for patients and how dance can aid in initiating movement” (from a learner who attended the Mark Morris Dance Group talk)
- “The idea of paying closer attention to one’s environment is applicable to the medical world. The workshop reinforced the importance of paying attention to patient’s body language, sounds, and speech in order to draw conclusions.” (from a learner who attended the workshop for the San Francisco Symphony event)

## **Evaluation**

In fall 2011, Program staff made great progress toward attaining Program aim 2 by developing a mixed-methods tool to evaluate the Program’s impact. The final version of the tool is a survey consisting of quantitative and qualitative portions. To develop the survey, we reviewed the literature on narrative writing in medical education and other qualitative methods of appraising medical student learning. We also considered a variety of psychosocial tools that had been validated among medical students and healthcare providers.



*Learners at the dinner and discussion for the Mark Morris Dance Group event*

*The discussion helped illuminate the fact that Parkinson's Disease is very much a movement disorder disease and can be better understood by examining it under the lens of movement, as opposed to purely neurologic processes.*

– Learner at the Mark Morris Dance Group discussion

The quantitative portion of the survey consists of four validated measurement tools that measure humanistic traits that we believed were potentially important for physicians. These tools were: the Jefferson Scale of Empathy; the Tolerance of Ambiguity scale, the Maslach Burnout Inventory, and quality of life Linear Analog Scale Assessment. For the qualitative portion of the survey, learners were asked to write short responses to 2 prose excerpts, 2 photographs from the UMMA collection, and 2 musical samples. Further information about each of the scales as well as the qualitative prompts are available in Appendix ??.

The pre-intervention survey was administered primarily in December 2011, while the post-intervention survey was administered primarily in May 2012, after the final Medical Arts event. Each round of surveys were administered via the Qualtrics web-based survey software in a proctored setting. To reduce potential selection bias in our subject pool, we recruited three groups: an intervention group consisting of learners who had attended a majority of Medical Arts events; a partial-intervention control group of learners who only attended one or two events; and a control group of students and house

officers who did not register for any events. A total of 103 participants completed both the pre- and post-tests. In return for their participation, participants received either an Amazon.com gift card or a Visa gift card of equivalent value.

The pre- and post-test responses for each participant will be compared by reviewers who are blinded to the group status of the participants. The effect of participation in the program will then be analyzed to assess whether it impacted participants' scores or the quality of their short-answer responses. Dr. Todd Greene at University of Michigan Medical School is analyzing the quantitative results. Dr. Rita Charon and her team of reviewers at Columbia University are in the process of analyzing the qualitative responses.

### **Program goals: 2012-2013**

Our principal goal for the 2012-2013 program year is to more precisely measure outcomes for learners using namely, validated survey instruments and qualitative analysis of learners' prose. The Program received plentiful feedback from learners at this year's events about how to improve future programming. We intend to assemble a schedule of events that reflects their suggestions. We are working with our partner UMS to take advantage of the remarkable talent featured on their 2011-2012 season roster, giving learners the opportunity to interact with more of the world-class artists UMS brings to Ann Arbor.





*Learners visiting UMMA*

*"I appreciate the sense of community development outside of the clinics and the hospitals where people at different levels of training can interact socially and share a common non-medicine interest."*

-- Learner who attended the UMMA "Curator's Choice" event

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# Appendices

## Appendix 1: Event details

**Get programs, list of works discussed at UMMA, etc.**

### **Program for the Mark Morris Dance Group**

Excursions  
Pause  
Festival Dance  
Intermission  
Socrates

### **Program for the San Francisco Symphony**

*John Cage / Song Books*  
Intermission  
*Henry Cowell / Synchrony*  
*John Adams / Absolute Jest*  
*Edgard Varèse / Amériques*

## Appendix 2: Quantitative Scales

### **Jefferson Scale of Empathy (JSE)**

Description: A 20-item survey intended for physicians, asking respondents to rate their agreement with various statements on a scale of (1, strongly disagree, to 7, strongly agree). Examples of statements include “A physician’s sense of humor contributes to a better clinical outcome” and “I believe that emotion has no place in the treatment of medical illness.” Possible scores range from 20 to 140. The higher the score, the more empathic the behavioral orientation.

For more information: <http://www.jefferson.edu/jmc/crmehc/medu/jspe.cfm>

Comparison ranges from Hojet et al 2002:

### **Mean JSE score by ratings of clinical competence in 6 core clinical clerkships<sup>1</sup>**

0 High Honours ratings (n=70)	115
1 or more High Honours ratings (n=111)	119
0 Good or Marginal Competence ratings (n=62)	120
1 or more Good or Marginal ratings (n=119)	116



(High Honors indicates highest clinical competence score, Excellent denotes next highest score range, Good or Marginal the lowest)

## **Tolerance of Ambiguity**

Description: A 16-item survey asking respondents to rate their agreement with various statements on a scale of (1, strongly disagree, to 7, strongly agree). Examples of statements include “What we are used to is always preferable to what is unfamiliar” and “The sooner we all acquire similar values and ideals the better.” Possible scores range from 16 to 112. Higher scores indicate a greater intolerance for ambiguity.

For more information: Budner, S., 1962, “Intolerance of ambiguity as a personality variable.” Journal of Personality. 30, 29-50.

Comparison ranges from other studies:

- Average range: 44-48
- New York psychology students: 50.9
- Engineering students: 48.9
- Advanced sociology students: 49.3
- Nursing students: 51.9
- High school honors students: 48.2
- Eastern medical students: 44.6
- Midwestern medical students: 45.2

## **Maslach Burnout Inventory (MBI)**

Description: The MBI assesses professional burnout in human services and other professions.

For more information: <http://www.mindgarden.com/products/mbi.htm>

**MBI Emotional Exhaustion Subscale:** “measures feelings of being emotionally overextended and exhausted by one's work.”

Score categorization ranges:	Frequency
High	$\geq 27$
Moderate	17-26
Low	0-16

Comparison: Mean scores of 125 4<sup>th</sup> year medical students at one institution: 24.3<sup>2</sup>

**MBI Depersonalization Subscale:** “measures an unfeeling and impersonal response toward recipients of one's service, care treatment, or instruction.”

Score categorization ranges:	Frequency
High	$\geq 13$
Moderate	7-12
Low	0-6

Comparison: Mean scores of 124 4<sup>th</sup> year medical students at one institution: 10.2<sup>2</sup>

**MBI Personal Accomplishment Subscale:** “measures feelings of competence and successful achievement in one's work”

Score categorization ranges:	Frequency
High	0-31
Moderate	32-38
Low	$\geq 39$

Comparison: Mean scores of 124 4<sup>th</sup> year medical students at one institution: 36.1<sup>2</sup>

## Linear Analog Scale Assessment (LASA)

Description: The Linear Analog Scale assessment (LASA), which consists of 5 items asking respondents to rate, on 0-10 scales, their perceived physical, emotional, spiritual, intellectual, and overall well-being. Possible scores range from 0 to 50. A higher score is indicative of higher self-reported well-being.

For more information: Locke DE, Decker PA, Sloan JA, Brown PD, Malec JF, Clark MM, Rummans TA, Ballman KV, Schaefer PL, Buckner JC. Validation of single-item linear analog scale assessment of quality of life in neuro-oncology patients. *J Pain Symptom Manage*. 2007 Dec;34(6):628-38.

Thomas et al note of the LASA quality of life scores: “(A)chieving a high quality of life in specific domains correlated with higher empathy scores.”<sup>3</sup>

## References

1. Hojat M, Gonnella JS, Mangione S, et al. Empathy in medical students as related to academic performance, clinical competence and gender. *Med Education* 2002;36:522-527.
2. Brazeu CMLR, Schroeder R, Rovi S, Boyd L. *Acad Med* 2010;85(10):S33-S36.
3. Thomas MR, Dyrbye LN, Huntington JL, Lawson KL, Novotny PJ, Sloan JA, Shanafelt TD. How do distress and well-being relate to medical student empathy? A multicenter study. *J Gen Intern Med*. 2007 Feb;22(2):177-83.

## Appendix 3: Qualitative items

### Prose samples:

- *The English Patient*, by Michael Ondaatje
- *One Minus One*, by Colm Toibin

**Images** (all reproduced courtesy of UMMA)



Garry Winogrand, Cape Kennedy, Florida 1969, from portfolio of 15 photographs, 1978  
Gelatin silver print, 23 x 34.2 cm (9 1/6 in. x 13 7/16 in.)  
Gift of Stanley T. Lesser, A.B. 1951, J.D. 1953, 1981/2.65.1



*Alex Traube '71*

Alex Traube, Portrait of Two Girls, 1971, gelatin silver print, 28.1 cm x 35.7 cm (11 1/16 in. x 14 1/6 in.)  
Gift of Mr. & Mrs. Arnold M. Gilbert, 1981/2.35.



Joel Meyerowitz, Lake in Catskill Mountains, (Woman throws crutches), from the portfolio "Photographs: The Early Works", 1971, gelatin silver print, 27.9 cm x 35.4 cm (11 in. x 13 15/16 in.) Gift of Selma & Gerald Lotenberg, 2000/2.158.3





Emmet Gowin, Danville, Virginia, from the portfolio "Photographs Rhode Island School of Design," 1968, gelatin silver print, 11 cm x 14 cm (4 5/16 in. x 5 1/2 in.) Gift of The Morris and Beverly Bakr Foundation, in memory of Morris D. Baker, a graduate of the University of Michigan School of Architecture, 1952. 2000/2.139.2

**Music samples:**

- Richard Wagner, *Siegfried* (1876)
- Shostakovich, *Prelude and fugue #3* (1952)
- Nicht weise bin ich
- Shostakovich, *Prelude & fugue #11* (1952)