The Case for Medical Improv
Research Papers, Articles and Books

Assembled by Beth Boynton, RN, Ellen Schnur & Jim Mecir

There is a tidal wave of research demonstrating that healthy human interactions are essential for optimal health outcomes for both patients AND healthcare providers. **Medical improv** is an emerging teaching modality that promotes healthy human interactions and critical outcomes in healthcare.

In this document we have listed a small sampling of articles, research and books that support this experiential teaching strategy. They are categorized as follows: Medical Improv, Leadership, Teamwork and Communication in Healthcare, Compassion and Empathy, Complex Adaptive Systems/Complexity Leadership, and finally, Improvisation in the Workplace (Applied Improvisation).

If you have any questions or would be interested in a keynote, workshop or train-the-trainer session feel free to contact Beth Boynton beth@bethboynton.com (bethboynton.com) or Ellen Schnur, Ellen.Schnur@ImprovTalk.com (improvtalk.com). Also, if you know of any new research let us know!

Contents

MEDICAL IMPROV

Improv to Improve: The Impact of Improvisational Theater on Creativity, Acceptance, and Psychological Well-Being

Diana Schwenke, Maja Dshemuchadse, Hochschule Zittau Görlitz, Lisa Rasehorn, Dominik Klarhölter

April 2020, Journal of Creativity in Mental Health

https://www.researchgate.net/publication/340843426_Improv_to_Improve_The_Impact_of_Improvisational_Theater_on_Creativity_Acceptance_and_Psychological_Well-Being

Abstract: Improvisational theatre (improv) is a form of theatre where dialog, characters, and story are created spontaneously by its actors on stage. In the last years, different improv techniques have gained increasing popularity and spread into fields beyond comedy and performing art, e.g. business organizations and educational programs. However, the beneficial impact of improv on psychological variables has barely been investigated. In this study we aim to fill this gap and contribute to a scientific investigation of improvisational theatre on various variables that measure creativity, acceptance and psychological well-being. In a controlled trail, 30 participants in the intervention group and 28 in the waiting control group completed 6 different tests and questionnaires prior and post to a 6-week improv intervention or waiting time respectively. **We found significant improvement in participants' creativity and psychological well-being** due to the intervention but no evidence for enhanced acceptance. **Keywords:** applied improv; training; psychological well-being; social skills; creativity

No joke: The serious role of improv in medicine

Sarah Mahoney

AAMC News January 13, 2020

"The whole purpose of medical training is to serve patients," she notes. "But if students don't develop the communication skillsets to collaborate with patients and teammates, it's all for naught."

The role of "improv" in health professional learning: A scoping review

L. Gao, J. Peranson, J. Nyhof-Young, E. Kapoor & J. Rezmovitz

Medical Teacher Volume 41, 2019 - Issue 5

https://www.tandfonline.com/doi/full/10.1080/0142159X.2018.1505033?src=recsys

Abstract

Background: The use of improvisational theater ("improv") in health professional education ("medical improv") is an emerging field. However, optimal curricular design features and learning outcomes have not yet been systematically described. **Objective:** To synthesize evidence on learning outcomes and curricular design elements of improvisational theater training in health professions education. **Methods:** A literature search with keywords "Improv" and

"Improvisational Theatre" was undertaken in January 2016 in Ovid MEDLINE, CINHAL, EMBASE, SCOPUS, Web of Science, and ERIC, with an accompanying gray literature search. Four authors coded and achieved consensus on themes relating to curricular design elements and learning outcomes, which were mapped onto the CanMEDS framework. **Results:** Seven articles met inclusion criteria. Key curricular design features included (i) facilitators with dual clinical and theater expertise; (ii) creating a low-stakes environment; and (iii) engaging in debrief to highlight clinical relevance. Improv curricula were found to impact most CanMEDS roles, including: Medical Expert (comfort with uncertainty); Leader (team management); Scholar (feedback, self-reflection); Communicator (empathy, active listening, non-verbal communication); Collaborator (culture of trust); and Professional (resiliency and confidence). Mechanisms by which improv may promote acquisition of these professional competencies, and the utility of improv in areas such as interprofessional team development, leadership, and wellness and resiliency are discussed.

Medical Improv: How to Teach Effective Communication Skills

Beth Boynton, RN, MS

HealthCareers Online Magazine Oct 22, 2018

https://www.healthecareers.com/article/medical-improv-how-to-teach-effective-communication-skills

Excerpt: Since the turn of the century, healthcare leaders have been aware that communication problems have been a persistent source of medical errors. Not only do they continue to plague patient safety efforts[1], but they are also implicated in challenges with patient experience, workforce health and cost-effectiveness[2]. Despite efforts to impact these outcomes, communication continues to be a challenge for many healthcare teams and organizations. Part of the reason for this is that we are not effectively addressing the underlying 'soft' skills that many of us need in order to practice speaking up and listening in our day-to-day high-stress, high-stakes work environments. I'm referring to things like self-awareness, confidence, and the ability to validate a different perspective, identify social cues, and empower others. These skills are the building blocks for giving and receiving constructive feedback, working effectively in teams, practicing collaborative leadership and contributing to cultures of safety. As important as they are, they are quite difficult to develop.

Medical Improv - A New Way to Improve Communication (With 15 activities you can teach STAT!)

Beth Boynton, RN, MS

Textbook

Medical Improv is an exciting new teaching tool! Its experiential activities hold great promise for persistent challenges we face in healthcare by promoting the 'soft' skills involved in emotional intelligence, communication, collaboration, and leadership. This train-the-trainer resource is designed to help educators teach the "soft" skills that healthcare professionals need to positively impact patient safety, patient experience, workforce health, and the efficient use of resources. Because these skills are not intellectual, they require a non-traditional approach that fosters new behaviors. Medical Improv is a fun and effective strategy. There are 3 parts to the book. Part I, explains what Medical Improv is and why we need it. Part II, focuses on how to facilitate successful Medical Improv sessions. Part III, covers step by step instructions for teaching 15 fundamental activities with chapters that focus on skills associated with; emotional intelligence and communication, teamwork, and leadership. You do NOT need experience in improv or a background in theater to teach these fundamental activities. This is the first Medical Improv train-the-trainer book for nurses and other healthcare educators. Applied improvisers will find it helpful for teaching classes in the healthcare sector. The author's combined expertise in nursing, communication, organizational development, and improvisation provides a powerful opportunity for positive change!

"Rising to the Level of Your Incompetence": What Physicians' Self-Assessment of Their Performance Reveals About the Imposter Syndrome in Medicine

LaDonna, Kori A.; Ginsburg, Shiphra; Watling, Christopher

Academic Medicine, Volume 93, Number 5, 1 May 2018, pp. 763-768(6)

https://www.ingentaconnect.com/content/wk/acm/2018/00000093/00000005/art00041

Purpose

Mistakes are ubiquitous in medicine; when confronted by error, physicians may experience anxiety, guilt, and self-doubt. Feedback may be useful for navigating these feelings, but only if it matches a physician's self-assessment; self-doubt and the imposter syndrome are examples of inaccurate self-assessments that may affect receptivity to feedback. The impact of real or imagined underperformance on seemingly competent physicians is poorly understood. This study aimed to develop a deeper understanding to identify strategies to support all physicians who struggle.

Method

In 2015, 28 physicians were interviewed about their experiences with underperformance. Early in the data collection process, participants spontaneously identified the imposter syndrome as a feature of their experiences; questions about the imposter syndrome were probed in subsequent interviews.

Results

Many participants—even those at advanced career stages—questioned the validity of their achievements; progressive independence and career advancement were variably experienced as "rising to the level of your incompetence." Not all participants identified as imposters; the imposter syndrome occurred at the extreme end of a spectrum of self-doubt. Even positive feedback could not buffer participants' insecurities, which participants rarely shared with their colleagues.

Conclusions

Self-doubt variably affects clinicians at all career stages. Frequent transitions may cause a resurgence of self-doubt that may affect feedback credibility. Medical educators must recognize that it is not just the underperforming or failing learners who struggle and require support, and medical culture must create space for physicians to share their struggles.

I've Got Your Back: Utilizing Improv as a Tool to Enhance Workplace Relationships

Jordana Cole

University of Pennsylvania Paper August 2016

http://repository.upenn.edu/cgi/viewcontent.cgi?article=1096&context=mapp_capstone

An organizational environment that breeds positive relationships as opposed to negative relationships can mean the difference between a dysfunctional organization that is struggling to survive and a flourishing organization that thrives (Carmeli & Spreitzer, 2009; Gully, Incalcaterra, Joshi, & Beaubien, 2002). As organizations grow increasingly interdependent and team-based, they are becoming even more reliant on interpersonal relationships in order to function well. Likewise, with Americans increasingly spending the majority of their daily lives at work - averaging more than 47 hours a week (Saad, 2014), the ability to personally and professionally flourish may rely in large part on the quality of interpersonal interactions within the workplace.

Can Improv Help Doctors Connect With Patients?

Stanford Online Magazine Article 2016

https://stanfordmedicine25.stanford.edu/blog/archive/2017/canimprovhelpdoctors.html

Cites the article below in *The Atlantic*, "Medical schools are increasingly adapting improv tools to enhance patient interviewing, simulate difficult conversations and facilitate learning in medical teams."

What Improv Can Teach Tomorrow's Doctors

Anu Atluru

The Atlantic, August 2016

https://www.theatlantic.com/education/archive/2016/08/what-improv-can-teach-tomorrows-doctors/497177/

While physician-patient encounters may be structured, every interaction is, to some extent, improvised. Thinking quickly and occasionally abandoning the medical-school script are critical for quality patient care. Improvisation may not be without risk, but interpersonal skills cannot be summed up by a formula. Medical educators are starting to adopt novel techniques aimed at teaching students how to approach situations and people, rather than what specifically to say or do. A new priority is arising—to inject the person back into interpersonal—whether at 2 a.m. in the ER, or in daily life.

A Day at the Improv

Rosanne Raso, MS, RN, NEA-BC

Editorial in Nursing Management June 2015

https://journals.lww.com/nursingmanagement/fulltext/2015/06000/A_day_at_the_improv.1.aspx

The effects of improvisation are significant for yourself and your staff. You're promoting a culture of resilience when staying positive, thinking of creative solutions, and adapting using improvisation. It's hard to make a mistake in those circumstances. Yes, it's a bit risky. Taking responsibility means taking risk. The good news when dealing with the unexpected is that the consequences of your actions by definition are a win-win or, at the very least, a draw. It probably can't get worse.

Improv to Improve Interprofessional Communication, Team Building, Patient Safety, and Patient Satisfaction

Candace A. Campbell

The University of San Francisco USF Scholarship: Geschke Center Doctor of Nursing Practice (DNP) Projects Theses, Dissertations, Capstones and Projects Spring 5-5-2014

https://repository.usfca.edu/cgi/viewcontent.cgi?article=1036&context=dnp

Abstract: The purpose of this process improvement project was to implement a test of change within a healthcare team utilizing applied improvisational exercises (AIEs), and to lay the groundwork for more effective inter-and intra-professional communication. **Literature review:** AIEs have been shown to facilitate individual participant communication strengths through a process of un-learning certain common behavioral habits, and learning new habits that assist in creating and expanding closed-loop communication. Such un-learning and learning enriches the participant's awareness of the environment and encourages participant adaptability through positive group interactions. **Method:** An all-day AIE seminar/workshop was conducted with members of two healthcare teams that work closely together. The course included exercises to enhance situational awareness of non-verbal communication, listening skills, ability to establish trust in a new environment, spontaneity, ability to accept new information, memory, willingness to contribute ideas, self-confidence in group interactions, and creative problem solving. **Results:** Attendee's post-seminar surveys showed solid enthusiasm for the AIE-based learning process.
Conclusion: Teams that train with AIEs are able to facilitate bridging the inter-and intra-professional healthcare communication gap and improve patient safety and satisfaction. Keywords: applied improvisational exercises, medical improv, complex adaptive systems, interprofessional communication, communication skills, teambuilding.

'Thinking on my feet': an improvisation course to enhance students' confidence and responsiveness in the medical interview

Robert Shochet , Julie King, Rachel Levine, Sarah Clever, Scott Wright

National Library of Medicine, February 2013

Abstract

Background: Effective patient-centered communication requires physicians to respond 'in the moment' to comments and questions. It is a valuable skill to be able to react to unexpected patient utterances with empathy and support, and these surprises may be most common in general practice where patients are encouraged to speak to their doctor about anything. We developed an elective for medical students to learn and practice improvisational skills that would optimize their communications with patients during medical encounters.

Methods: Nineteen second-year medical students during two consecutive years (n =38) participated in a four-session elective that introduced and allowed them to practice the principles and skills of improvisation, and reflect on the role of those skills in their communication with patients. Specific skills that were practiced and emphasized included listening, affirmation, vocal tone modulation, nonverbal communication, agreement, collaboration, acceptance and validation. In addition to previously developed 'Improv' exercises, students created their own improvisation exercises targeted at specific communication skills. **Results:** Twenty-seven (71%) of all participating students completed the post-curriculum assessment survey. Twenty-two (81%) rated their enjoyment as 'tremendous'. The desire to experience something new and different from the standard medical curriculum served as the motivation for many of the students (67%) to sign up for the course. Most students (23/27; 85%) thought that the concepts that were addressed were either 'very much' or 'tremendously' relevant to the care of patients. **Conclusion:** We have found that an improvisational workshop geared towards enhancing medical student communication skills has the potential to impart valuable skills that are essential to providing empathic, supportive patient-centered care.

Improvisation as an Adaptive Strategy for Occupational Therapy Practice

Nancy Krusen

ABSTRACT: As health care environments become increasingly complex, practitioners must develop new adaptive skills to master practice. The idea of using theatrical improvisation (improv) in health care is relatively new. Occupational therapy students were taught a module of improvisational techniques as part of an academic seminar, learning improvisation rules, and enacting solutions to typical daily professional challenges. The purpose of this article is to recommend improvisational techniques as an adaptive skill to effectively blend art and science for occupational therapy practice in fast-paced and unpredictable health care environments.

Perspective: Serious play: teaching medical skills with improvisational theater techniques

Katie Watson

Abstract: The physician-patient encounter may be structured, but it is never scripted; every physician-patient interaction is to some degree improvised. Both physicians and improvisers must prepare for unpredictability, and the surprising and unrecognized overlap between improvisational theater and medical training and medical practice led the author to develop a seminar that tailors improvisational skills to physician needs, teaching communication, professionalism, and other medical skills through an approach she calls "medical improv." The author observes that there is no example of this teaching strategy as a recurring part of a medical school curriculum reported in the literature, and she describes the contributions medical improv can make to physician skills. The author reports on medical students' positive response to the medical improv seminar she has taught at Northwestern University Feinberg School of

Medicine since 2002: 95% of students anonymously evaluating the seminar from 2002 to 2010 agreed with the statement, "Studying improv could make me a better doctor," and 100% agreed with the statement, "I would recommend this class to other medical students." The author proposes a medical improv teaching model that other medical schools and hospitals could adapt and adopt.

Improvisational exercises to improve pharmacy students' professional communication skills

Kevin P Boesen, Richard N Herrier, David A Apgar, Rebekah M Jackowski

Abstract

Objective: To create and implement improvisational exercises to improve first-year pharmacy students' communication skills. **Design:** Twelve 1-hour improvisational sessions were developed and added to an existing/established patient communication course to improve 3 basic skills: listening, observing and responding. Standardized patient examinations were used to evaluate student communication skills, and course evaluations and reflective journaling were used to evaluate students' perceptions of the improvisational exercises. **Assessment:** The improvisational exercises markedly improved the students' performance in several aspects of standardized patient examination. Additionally, course evaluations and student comments reflected their perception that the improvisational exercises significantly improved their communication skills. **Summary:** Improvisational exercises are an effective way to teach communication skills to pharmacy students. **Keywords:** communication; improvisation.

Exploring Improvisation in Nursing

Mary Anne Hanley, Mary V. Fenton

Improvisation has long been considered a function of music, dance, and the theatre arts. An exploration of the definitions and characteristics of this concept in relation to the art and practice of nursing provide an opportunity to illuminate related qualities within the field of nursing. Nursing has always demonstrated improvisation because it is often required to meet the needs of patients in a rapidly changing environment. However, little has been done to identify improvisation in the practice of nursing or to teach improvisation as a nursing knowledge-based skill. This article strives to explore the concept of improvisation in nursing, to describe the characteristics of improvisation as applied to nursing, and to utilize case studies to illustrate various manifestations of improvisation in nursing practice.

LEADERSHIP, TEAMWORK & COMMUNICATION IN HEALTHCARE

From command and control to modern approaches to leadership

Todd Dorman

Excerpt/Conclusion: Historical command and control approaches to leadership fail in building relationships and engendering engagement and thus do not enhance performance like modern approaches to leadership. Conclusion: Modern leaders are different from the iteration of command-and-control leaders. They are empathetic and they work hard to multiply the impact of all team members. They are more coach than simply Delphi. Given this coaching role, I will quote a National Basketball Association coach, Steve Kerr, who recently stated in an interview published in Sports

Illustrated and written by Chris Ballard, "The people to me who are the most powerful leaders are the ones who have great talent in whatever their field is, great conviction in their ability to teach it and act it, but an awareness and a humility and compassion for others." Clearly there is a new path to leading and maximizing performance of our teams all in the name of enhanced patient and family care. Importantly, while this approach helps enhance patient and family care, it also can help empower our team and thus can have impact on the rates of PTSD and burnout in our teams.

Barriers to collaborative anesthetic care between anesthesiologists and nurses on the labor and delivery unit: a study using a modified Delphi technique

Lillia Y. Fung, Kristi Downey, Nancy Watts, Jose C. A. Carvalho

https://www.researchgate.net/publication/316752694_Barriers_to_collaborative_anesthetic_care_between_anesthesiologists_and_nurses_on_the_labour_and_delivery_unit_a_study_using_a_modified_Delphi_technique

Abstract: The practice of obstetrical anesthesia relies on collaborative effort between anesthesiologists and nurses, but teamwork remains a challenge**. We sought to identify a consensus on the perceived barriers to collaborative care** between anesthesiologists and perinatal nurses in a Canadian tertiary labour and delivery (L&D) unit. **Methods**: A cross-sectional consensus-building study was conducted using a modified Delphi technique. We aimed to reach consensus on the barriers to collaborative care as well as to identify the reasons behind the issues and possible interventions. This technique involved conducting four parallel sequential rounds of questionnaires: Round 1 - posing open-ended questions to nurses and anesthesiologists; Round 2 - establishing an initial within-group consensus; Round 3 - conducting a cross-over round to determine the interprofessional consensus and the remaining anesthesia and nursing consensuses; Round 4 - ranking to identify the top three barriers identified by the three consensuses. Results: Twenty-one anesthesiologists and 15 nurses were recruited. **Themes of barriers to collaboration included issues on professionalism, availability, dissonance, team coordination, communication, organizational structure, educational gaps, and role clarity. The top two barriers from the interprofessional consensus were communication issues. Discussion: Anesthesiologists and nurses at our tertiary L&D unit identified communication as a major barrier to collaborative care.** This study also shows the feasibly of using the modified Delphi technique in L&D units seeking to improve collaborative care.

Perceptions of Effective and Ineffective Nurse-Physician Communication in Hospitals

F Patrick Robinson, Geraldine Gorman, Lynda W Slimmer, Rachel Yudofsky

https://www.researchgate.net/publication/45535629_Perceptions_of_Effective_and_Ineffective_Nurse-Physician_Communication_in_Hospitals

Abstract: Nurse-physician communication affects patient safety. Such communication has been well studied using a variety of survey and observational methods; however, missing from the literature is an investigation of what constitutes effective and ineffective interprofessional communication from the perspective of the professionals involved. The purpose of this study was to explore nurse and physician perceptions of effective and ineffective communication between the two professions. Using focus group methodology, we asked nurses and physicians with at least 5 years' acute care hospital experience to reflect on effective and ineffective interprofessional communication and to provide examples. Three focus groups were held with 6 participants each (total sample 18). Sessions were audio recorded and transcribed verbatim. Transcripts were coded into categories of effective and ineffective communication.

The following themes were found. For effective communication: clarity and precision of message that relies on verification, collaborative problem solving, calm and supportive demeanor under stress, maintenance of mutual respect, and authentic understanding of the unique role. For ineffective communication: making someone less than, dependence on electronic systems, and linguistic and cultural barriers. These themes may be useful in designing learning activities to promote effective interprofessional communication

Speeding Up Team Learning (Psychological Safety)

Amy C. Edmondson, Richard M.J. Bohmer, Gary P. Pisano

Publication Date: October 01, 2001 Article in Harvard Business Review

Cardiac surgery is one of medicine's modern miracles. In an operating room no larger than many household kitchens, a patient is rendered functionally dead while a surgical team repairs or replaces damaged arteries or valves. Each operation requires incredible teamwork--a single error can have disastrous consequences. In other words, surgical teams are not all that different from the cross-functional teams that have become crucial to business success. The challenge of team management these days is not simply to execute existing processes efficiently. It's to implement new processes as quickly as possible. But adopting new technologies or new business processes is highly disruptive, regardless of the industry. **The authors studied how surgical teams at 16 major medical centers implemented a difficult new procedure for performing cardiac surgery.** The setting was ideal for rigorously focusing on how teams learn and why some learn faster than others. **The authors found that the most successful teams had leaders who actively managed the groups' learning efforts. Teams that most successfully implemented the new technology shared three essential characteristics. They were designed for learning; their leaders framed the challenge so that team members were highly motivated to learn; and an environment of psychological safety fostered communication and innovation.** The finding that teams learn more quickly if they are explicitly managed for learning poses a challenge in many areas of business. Team leaders in business tend to be chosen more for their technical expertise than for their management skills. Team leaders need to become adept at creating learning environments, and senior managers need to look beyond technical competence and identify leaders who can motivate and manage teams of disparate specialists.

Thus, the key finding of our study—that teams learn more quickly if they are explicitly managed for learning— imposes a significant new burden on many team leaders. Besides maintaining technical expertise, they need to become adept at creating environments for learning. (See the sidebar "Becoming a Learning Leader.") **This may require them—like surgeons who give up dictatorial authority so that they can function as partners on the operating teams— to shed some of the trappings of their traditional status.**

Becoming a Learning Leader (article insert)

Creating an environment conducive to team learning isn't hard, but it does require a team leader to act quickly. Social psychologists have shown that people watch their supervisors carefully for cues on how team members are expected to behave. These impressions form early in the life of a group or project. To set the right tone, team leaders must:

Be accessible. In order to make clear that others' opinions are welcomed and valued, the leader must be available, not aloof. One nurse in our study commented about a successful team leader: "He's in his office, always just two seconds away. He can always take five minutes to explain something, and he never makes you feel stupid."

Ask for input. An atmosphere of information sharing can be reinforced by an explicit request from the team leader for contributions from members. The surgeon on one successful team "told us to immediately let him know—let everyone know—if anything is out of place," said the team's perfusionist.

Serve as a "fallibility model." Team leaders can further foster a learning environment by admitting their mistakes to the team. One surgeon in our study explicitly acknowledged his shortcomings. "He'll say, 'I screwed up. My judgment was

bad in that case,'" a team member reported. That signaled to others on the team that errors and concerns could be discussed without fear of punishment.

The human factor: The critical importance of effective teamwork and communication in providing safe patient care

Michael Leonard, S. Graham, Doug Bonacum

October 2004 Quality and Safety in Health Care

https://www.researchgate.net/publication/288951758_The_human_factor_The_critical_importance_of_effective_teamwork_and_communication_in_providing_safe_patient_care

Abstract: Effective communication and teamwork is essential for the delivery of high quality, safe patient care. Communication failures are an extremely common cause of inadvertent patient harm. The complexity of medical care, coupled with the inherent limitations of human performance, make it critically important that clinicians have standardized communication tools, create an environment in which individuals can speak up and express concerns, and share common ''critical language'' to alert team members to unsafe situations. All too frequently, effective communication is situation or personality dependent. Other high reliability domains, such as commercial aviation, have shown that the adoption of standardized tools and behaviors is a very effective strategy in enhancing teamwork and reducing risk. We describe our ongoing patient safety implementation using this approach within Kaiser Permanente, a non-profit American healthcare system providing care for 8.3 million patients. We describe specific clinical experience in the application of surgical briefings, properties of high reliability perinatal care, the value of critical event training and simulation, and benefits of a standardized communication process in the care of patients transferred from hospitals to skilled nursing facilities. Additionally, lessons learned as to effective techniques in achieving cultural change, evidence of improving the quality of the work environment, practice transfer strategies, critical success factors, and the evolving methods of demonstrating the benefit of such work are described

EMPATHY/COMPASSION RESEARCH

Compassionomics

Dr. Stephen Trzeciak & Dr. Anthony Mazzarelli

Book, Published by: Struder Group 2019

Compassionomics is the scientific evidence that caring makes a difference. **The book is based on 280 research papers and over 1000 abstracts of studies on empathy and compassion**. The main hypotheses of the book based on all the studies are that compassionate healthcare is beneficial for (1) patients, by improving clinical outcomes, (2) healthcare systems and payers, by supporting financial sustainability, and (3) HCPs, by lowering burnout and promoting resilience and well-being.

Just a Few of the Key Takeaways

Scientists define compassion as the emotional response to another's pain or suffering involving an authentic desire to help. In other words, **compassion involves taking action**. It is different from empathy, which is detecting and mirroring another's emotions and experiencing their feelings. So, compassion involves taking action and feeling empathy which is a necessary precursor to motivate acts of compassion. Empathy motivates a person to respond to someone with compassion.

FMRI studies can detect subtle differences in blood flow in the brain. When a person experiences empathy, the feeling component, the pain centers light up. That person is experiencing the other person's pain. But when a person is focused on compassion, the action component of trying to alleviate another person's suffering, a distinctly different area of the brain, **a reward pathway association with affiliation and positive emotion, lights up.** Encountering another person's pain can in fact be painful for us, but taking action to alleviate another's suffering is a rewarding, positive experience.

Compassion can actually provide a counterbalance to the sympathetic system (fight or flight) of the receiver, and **produce a feeling of calm and peacefulness** - the relaxation response of the parasympathetic system. It not only lowers their stress, it quells their fears. The oxytocin produced from the parasympathetic nervous system, increases feelings of nurturing, bonding and affiliation.

Compassion for others not only improves the receiver's subjective experience, i.e., feeling of warmth, but it can also have measurable effects on the receiver's nervous system and cardiovascular system function. This effect can cut both ways. While the beneficial physiological effects of compassion are mediated largely through the activation of the parasympathetic nervous system, **negative interpersonal interactions can cause the opposite reaction, the activation of the sympathetic nervous system.**

A healthcare provider must build that trust and one of the ways to rapidly build trust is through compassion. There is ample evidence of this in the biomedical literature. For example, in a study of 550 outpatients, researchers at Michigan State University found that patient perception of physician compassion was associated with higher trust in the physician. In a NIH supported study of hospitalized patients, researchers at the University of California, San Francisco, found that **compassionate responses to patients by the physician had a measurable and statistically significant effect on patient rating of trust in the physician.**

Multiple studies have shown an association between better patient experience and connecting with or trusting the physician. So, a healthcare provider that is compassionate can readily become a trusted other for a patient.

Data shows that non-verbal immediacy, e.g. leaning in towards the patient, less interpersonal distance, making direct eye contact, and facial expressiveness, such as smiling and nodding, had a significant association with better patient outcomes on both physical and cognitive functioning. Likewise non-verbal distancing behaviors, e.g. keeping at a distance, looking away, no eye contact and a lack of facial expressiveness by the practitioner, were associated with worse physical and cognitive functioning in elderly patients.

There is a tidal wave of data that demonstrates that **compassion is an essential ingredient for optimal health outcomes in quality of care.** Compassion makes you a better healer. Period. Therefore, you have a responsibility to show compassion. As an example of this, Surgical Nurses underwent specific training to give compassionate responses to patient's emotions through explicit compassion focused behaviors. The researchers found that the patients randomly assigned to compassion-focused intervention had 50% lower scores on pain ratings compared to patient's randomly assigned to usual care.

Compassion actually increases your happiness.

Compassion training actually helps you keep your eyes focused on someone when they are suffering, rather than looking away, while simultaneous reducing the activation in the areas of the brain associated with negative affect and emotion. In other words, augmenting human compassion not only helps you witness suffering, but to stay focused on it, and **does it in such a way that it does not hurt you.**

The data is clear; Interventions to generate compassion were associated with major benefits, including significantly lower depression, lower anxiety, lower psychological distress, and enhanced well-being.

Effects on healthcare providers; showing compassion helps stress, emotions, resilience and wellbeing.

High compassion is associated with LOW burnout and low compassion is associated with HIGH burnout.

Effects of empathic and positive communication in healthcare consultations: a systematic review and meta-analysis

Jeremy Howick, Andrew Moscrop, Alexander Mebius, Thomas R Fanshawe, George Lewith, Felicity L Bishop, Patriek Mistiaen, Nia W Roberts4, Egle Dieninyte, Xiao-Yang Hu2, Paul Aveyard1and Igho J Onakpoya

Background: Practitioners who enhance how they express empathy and create positive expectations of benefit could improve patient outcomes. However, the evidence in this area has not been recently synthesized. Objective: To estimate the effects of empathy and expectations interventions for any clinical condition. Conclusions: Greater practitioner empathy or communication of positive messages can have small patient benefits for a range of clinical conditions, especially pain.

An Agenda for Improving Compassionate Care: A Survey Shows About Half Of Patients Say Such Care Is Missing

Beth A Lown, Julie Rosen, John Marttila

ABSTRACT: As the US health care system undergoes restructuring and pressure to reduce costs intensifies, patients worry that they will receive less compassionate care. So do health care providers. Our survey of 800 recently hospitalized patients and 510 physicians found broad agreement that compassionate care is "very important" to successful medical treatment. However, only 53 percent of patients and 58 percent of physicians said that the health care system generally provides compassionate care. Given strong evidence that such care improves health outcomes and patients' care experiences, **we recommend that national quality standards include measures of compassionate care;** that such care be a priority for comparative effectiveness research to determine which aspects have the most influence on patients' care experiences, health outcomes, and perceptions of health-related quality of life; and those payers reward the provision of such care. **We also recommend the development of systematic approaches to help health care professionals improve the skills required for compassionate care.**

Empathy Training for Resident Physicians: A Randomized Controlled Trial of a Neuroscience-Informed Curriculum

Helen Riess, John M Kelley, Robert W Bailey, Emily J Dunn, Margot Phillips

KEY RESULTS: The empathy training group showed greater changes in patient-rated CARE scores than the control (difference 2.2; P=0.04). Trained physicians also showed greater changes in knowledge of the neurobiology of empathy (difference 1.8; P<0.001) and in ability to decode facial expressions of emotion (difference 1.9; P<0.001).
CONCLUSIONS: A brief intervention grounded in the neurobiology of empathy significantly improved physician empathy as rated by patients, suggesting that the quality of care in medicine could be improved by integrating the neuroscience of empathy into medical education.

Clinical Empathy as Emotional Labor in the Patient-Physician Relationship

Eric B. Larson, MD, MPHXin Yao, PhC

Abstract: The published literature suggests that physicians who display a warm, friendly, and reassuring manner with their patients are more effective. In addition, Halpern wrote that empathy (1) makes patients more forthcoming about their symptoms and concerns, thus, facilitating medical information gathering, which, in turn, yields more accurate diagnosis and better care; (2) helps patients regain autonomy and participate in their therapy by increasing their self-efficacy; and (3) leads to therapeutic interactions that directly affect patient recovery. In sum, "making connections" and developing empathy are fundamental to caring and enhance the therapeutic potential of patient-clinician relationships.

Excerpt: Empathy should characterize all health care professions. Despite advancement in medical technology, the healing relationship between physicians and patients remains essential to quality care. We propose that physicians con-sider empathy as emotional labor (i.e., management of experienced and dis-played emotions to present a certain image). Since the publication of Hochschild's The Managed Heart in 1983, researchers in management and organization behavior have been studying emotional labor by service workers, such as flight attendants and bill collectors. In this article, we focus on physicians as professionals who are expected to be empathic caregivers. They engage in such emotional labor through deep acting (ie, generating empathy-consistent emotional and cognitive reactions before and during empathic interactions with the patient, similar to the method-acting tradition used by some stage and screen actors), surface acting (i.e., forging empathic behaviors toward the patient, absent of consistent emotional and cognitive reactions), or both. Although deep acting is preferred, physicians may rely on surface acting when immediate emotional and cognitive understanding of patients is impossible. Overall, we contend that physicians are more effective healers—and enjoy more professional satisfaction—when they engage in the process of empathy. We urge physicians first to recognize that their work has an element of emotional labor and, second, to consciously practice deep and surface acting to empathize with their patients. **Medical students and residents can benefit from long-term regular training that includes conscious efforts to develop their empathic abilities. This will be valuable for both physicians and patients facing the increasingly fragmented and technological world of modern medicine**.

COMPLEX ADAPTIVE SYSTEMS/COMPLEXITY LEADERSHIP

An introduction to complex systems science and its applications
Alexander F. Siegenfeld and Yaneer Bar-Yam
Complexity 2020 (July 27, 2020)
https://doi.org/10.1155/2020/6105872
Excerpt: However, even when armed with all the proper information and tools, human understanding of most complex systems will inevitably fall short, with **unpredictability being the best prediction**. To confront this reality, **we must design systems that are robust to the ignorance of their designers and that, like evolution, are strengthened rather than weakened by unpredictability**. Such systems are flexible with multiple processes occurring in parallel; these processes may compete with one another within a multiscale cooperative framework such that effective practices are replicated. Only these systems—that grow in complexity over time from trial and error and the input of many—exhibit the necessary complexity to solve problems that exceed the limits of human comprehension.

Complexity Leadership – Nursing's Role in Healthcare Delivery
Diana M. Crowell PhD, RN and Beth Boynton, RN, MS, CP
Textbook, Third Edition, FA Davis Company, 2020
The complexity leader is in the midst of the action; cultivating relationships; accepting feedback; tolerating messy, uncertain situations; and seeking diverse opinions, all while staying centered and self-reflective.

In today's healthcare environment, Complexity Leadership is not just a new way to lead but also a new way of thinking that is radically different from the linear, top-down, command-and-control approach that many have experienced in health care and other organizations. Complexity leadership is based on complexity science theory and takes a new view of health-care organizations as complex adaptive systems.

The mental demands of leadership in complex adaptive systems

David A. Petrie, MD, Robert Chad Swanson, DO, MPH

Abstract: After a decade of calls for healthcare transformation, there is a convergence of themes in our general orienting models**. The core metaphor of health system as machine (with closed boundaries, linear functions, and controlled predictable outputs) has given way to health as ecosystem (with open boundaries, non-linear functions, multiple interdependencies, and no single locus of control over outcomes).** Current developmental psychology theory suggests that people construct their reality, and interact with their world, based on the epistemology (or "action-logic" or "mindset") of their stage of development. Through this lens, the skills for leading large-scale change in our increasingly complex world require significant cognitive and interpersonal development. The concept of vertical development may be an underemphasized aspect of system change. This article will discuss a new set of leadership skills and frameworks that emerge in the nexus of complex adaptive systems and adult development theory.

IMPROV IN THE WORKPLACE (APPLIED IMPROVISATION)

Improvisation Takes Practice

Pier Vittorio Mannucci, Davide C. Orazi, Kristine de Valck

Harvard Business Review, March 11, 2021

https://hbr.org/2021/03/improvisation-takes-practice

Summary: In the face of rapid transformation and increasing uncertainty, the ability to improvise has become more important than ever. But what does it take to develop improvisational skills? The authors looked at several LARPs (Live-Action Role Playing games, in which players act as characters and react in real time to various scripted and non-scripted events) to gain insight into the mechanics of improvisation. Based on over two years of observations and interviews, they identified three distinct types of improvisation which players generally developed sequentially: **imitative, reactive, and generative improvisation**. They found that more competitive players developed reactive improvisation faster, but often struggled to advance to generative. Conversely, they found that more collaborative players developed slower at first, but **their greater levels of social support and mutual trust with other players ultimately enabled them to achieve true generative improvisation**. The authors go on to suggest three takeaways for organizations looking to foster improvisational skills among their managers and employees: **build awareness, balance competition and collaboration, and nurture strong social structures.**

I've Got Your Back: Utilizing Improv as a Tool to Enhance Workplace Relationships

Jordana Cole

University of Pennsylvania August 2016

http://repository.upenn.edu/cgi/viewcontent.cgi?article=1096&context=mapp_capstone

As the average American adult spends more time at work than anywhere else, **the workplace, and the relationships built therein, plays a key role in overall well-being.** With this in mind, many organizations dedicate significant time and resources to improve employee well-being, often in the form of fun, social events. In recent years, improvisational comedy, or improv, has emerged as a popular teambuilding activity due to its foundations in play, spontaneity, and trust. However, improv is more than just fun and laughs. Beyond merely being an energizing teambuilding event, I argue that **improv has the ability to generate positive social connections and strengthen workplace relationships by improving communication, collaboration, and interpersonal understanding**. Within this paper, I provide a historical overview of improvisation in the theater and applied settings, connecting modern-day improv to organizational well-being via the lens of positive psychology. I then theorize that improv enhances positive, workplace relationships by linking the improv principles of being present, co-creation, and heightening offers to constructs of interpersonal mindfulness, perspective taking, and active constructive responding. **This paper culminates with recommendations to culturally embed improv into regular work activities and suggestions for further research.** An appendix provides easily implementable, short improv exercises that can be used by anyone to develop positive workplace relationships.

Second Science Project

Collaboration between Chicago Booth Center for Decision Research & The Second City

https://research.chicagobooth.edu/cdr/second-science-project

In a groundbreaking partnership for the Center for Decision Research and Harry L. Davis Center for Leadership at the University of Chicago Booth School of Business with The Second City, the Second Science Project (SSP) intersects behavioral science with improvisational practice to cultivate the behavioral insights and interpersonal skills needed in today's workplace. This new collaboration does not take improvisation as a form of entertainment, but rather as a feature of daily life—something people must do every time they find themselves in a situation they didn't completely foresee, whether in the context of adjusting to new coworkers, responding to unforeseen defiance, or changing a team's old strategy. Inspired by over a century of behavioral research as well as decades of experiential expertise accumulated at The Second City, this new evidence-driven collaboration seeks to help people not only understand but practice adapting their own behavior to accommodate how people improvise their everyday responses to the world. This collaboration aims to produce and publish rigorous, cutting-edge, high-impact research. Work supported by this collaboration will pertain to the wide range of behavioral science phenomena relevant to the types of judgment, decision-making, and behavior that are relevant in improvisational contexts. These include honesty, empathy, group relations, motivation, communication, cooperation, goals, perception, self-regulation, diversity, inclusion, and coordination.

How Improvisation Changes the Brain
Research sheds lights on optimal communication and creativity.
Clay Drinko

Psychology Today, October 1, 2019

https://www.psychologytoday.com/us/blog/play-your-way-sane/201910/how-improvisation-changes-the-brain

Excerpt: Because theatrical improvisation is about listening, collaborating, and creating, and those skills are at the heart of being human, the possibilities to apply improv research to other fields seem almost limitless. Improv principles such as the rule of agreement are about positive, collaborative communication, which is something that's in demand in many areas. Improv can serve as a lens to discuss ways to improve mental health treatment and care, therapy, social work, education, health care, business, tech, and any other field that requires clear, collaborative communication.

Whether it's improving how we care for patients or enhancing how we develop artificial intelligence,

improv can be a model for us to improve and enhance our world. If positivity, teamwork, spontaneity, and creativity are shared societal values, improv offers a roadmap for us to follow that allows us to head toward those aims.

Neural Substrates of Spontaneous Musical Performance: An fMRI Study of Jazz Improvisation

Dr. Charles J. Limb & Dr. Allen R. Braun

Abstract: To investigate the neural substrates that underlie spontaneous musical performance, we examined improvisation in professional jazz pianists using functional MRI. By employing two paradigms that differed widely in musical complexity, we found that improvisation (compared to production of over-learned musical sequences) was consistently characterized by a dissociated pattern of activity in the prefrontal cortex: extensive deactivation of dorsolateral prefrontal and lateral orbital regions with focal activation of the medial prefrontal (frontal polar) cortex. Such a pattern may reflect a combination of psychological processes required for spontaneous improvisation, in which internally motivated, stimulus-independent behaviors unfold **in the absence of central processes that typically mediate self-monitoring and conscious volitional control of ongoing performance**. Changes in prefrontal activity during improvisation were accompanied by widespread activation of neocortical sensorimotor areas (that mediate the organization and execution of musical performance) as well as deactivation of limbic structures (that regulate motivation and emotional tone). **This distributed neural pattern may provide a cognitive context that enables the emergence of spontaneous creative activity.**

Improvisation in Action

Mary M. Crossan

Abstract

It has often been proposed, or assumed, that improvisation is a useful metaphor to provide insight into managing and organizing. However, improvisation is more than a metaphor. It is an orientation and a technique to enhance the strategic renewal of an organization. The bridge between theory and practice is made through exercises used to develop the capacity to improvise, borrowed from theatre improvisation. This paper describes a typical improvisation workshop in developing six key areas that link improvisation exercises to the practice of management: interpreting the environment; crafting strategy; cultivating leadership; fostering teamwork; developing individual skills; and assessing organizational culture.