

Knitting as a Vehicle of Personal Transformation

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Abstract

This paper served to examine the potential of knitting, and by extension, other textile arts, to serve as a vehicle for personal transformation in a psychotherapeutic process. There is very little empirical research that focuses specifically on the psychological benefits of textile arts, and their potential application in a therapeutic setting, but there is a growing interest and potential for inquiry, based on the findings of several qualitative, descriptive studies on the subject. The following explores the physiological, psychological, and social benefits of knitting, through the lens of current empirical research on other, similar, expressive arts. Findings suggest that knitting has great potential as an adjunctive therapeutic modality, particularly in treating anxiety and depression in clients who are vulnerable to rumination cycles. Further empirical research is indicated to verify these findings, and to explore the potential of textile arts in the management of chronic pain, trauma symptoms, anxiety disorders, and other mental health concerns.

Knitting: A Vehicle of Personal Transformation

Introduction

Suppose you noticed that an everyday domestic hobby was also a vehicle of psychological transformation? Imagine that you found that this seemingly ordinary act linked to a vast enhancement of the emotional modulation capacities of your central nervous system; that it was linked to your creativity; that it was integral to your ability to transform fleeting pleasure into enduring happiness; that it supported your adaptation to personal temperament; that it was a potent resource in overcoming addiction; that it had the potential to evoke unique states of consciousness; and much more besides? These are just some of the discoveries I made when I undertook a professional, scientific, and philosophical review of my knitting.

I have been a knitter for over 30 years. And while I have always thought of myself as a creative and artistic person, I didn't start knitting because I thought of it as a means of personal expression, or as a vehicle through which I could transform myself emotionally or psychologically. Rather, it was something to do when my brothers dominated the television with sports that didn't interest me. It was an engaging, portable hobby that didn't make me car-sick on a long road trip. It was a way to make a meaningful birthday gift for a family member when I couldn't think of something to buy. It wasn't until I'd been knitting for several years that I began to realize that the craft actually played more of a significant role in my life than a simple hobby, that it had actually become a tool of self-regulation and self-soothing. Besides the fact that it was something that simply made me feel good to do, knitting was also something to keep my hands busy when I was trying to quit smoking; it was something to occupy my mind and

help me to focus when I was anxious or suffering insomnia; it was a socially acceptable reason to sit quietly alone, yet also a comfortable point of social contact, at a time when introversion was not yet well-understood; it was a practice that improved my dark moods and helped me to feel productive.

The psychological benefits of engaging in cognitively stimulating, and creative activities, are well-documented, (see: Collier, 2011; Collier & Károlyi, 2014; Collins, et al., 2009; Corkhill, et al., 2014; Csikszentmihalyi, 1997, 2008; Geda, et al., 2011; Kenning, 2015; Knill, et al., 2005; Malchiodi, 2008; Malchiodi, 2012; Moon, 2016; Pöllänen, 2015; Reynolds, 2000; Riley, 2008; Riley, et al., 2013; Tripp, 2007; Valenzuela, et al., 2012; Vercillo, 2012), and the field of art therapy, in particular, has endeavoured to study, understand, and apply creative practices in a therapeutic context, in order to capitalize on their seemingly inherent advantages in sponsoring emotional and psychological transformation. Quite by accident, I discovered some of these benefits through the specific exemplar to be explored in this thesis: the practice of knitting. The psychologically and emotionally rewarding aspects of my craft were convenient by-products of doing something that I loved, and consistently found captivating. And as I began to understand how knitting served as a tool in my life, it slowly emerged as an integral part of my identity, because it fostered my personal expression, and allowed me to engage in a dialogue with threads, textures, colours, and patterns that came to be metaphorical representations of aspects of myself, which I processed and understood through the act of knitting them together to create the interconnected, and interdependent tapestry of my life. This is when I began to see

knitting as more than a hobby; or, perhaps more accurately, my insight about its creativity added layers of meaning to what craft meant for me.

Bohm (1996) suggests that art is not expression, as such, but is rather a dialogue between the artist and the medium. Dialogue, Bohm posits, is a “stream of meaning flowing among and through us and between us...out of which will emerge some new understanding” (p. 1). In any dialogue, what is imagined, what is expressed, and what is understood, are necessarily three different things, the interplay of which leads the participant(s) to new and unique understandings. For example, what an artist creates (what is expressed) can never be exactly the same as what s/he envisioned in her/his mind (what is imagined) before the work was manifested. In addition, how that creation is interpreted (what is understood) will be unique to each individual who observes it, including the artist who created it. In dialoguing with knitting, I have discovered that I have also been dialoguing with myself, with patterns in my life, with my perceptions, my values, my narrative. I have come to new and unique understandings, not only within myself, but also with the world around me. In essence, I have shifted my consciousness, and thus transformed myself, through the process of engaging with my craft. And what is psychotherapy, but a lens through which we seek self-understanding and personal transformation?

So what is it about knitting that has served as such a successful vehicle for personal transformation in my life? As a counsellor-in-training, throughout my course of study, I have contemplated knitting in the context of its application as a therapeutic practice, not only in and of itself, but also as a bonafide counselling tool whose benefits have only begun to be explored. Of the best practices that I have studied, the ones that

have resonated the most with me have consistently borne some resemblance to, or have shared something in common with, the practice of knitting. For me, knitting is highly engaging; existential therapeutics suggest that engagement is the key to finding meaning in our lives, the by-product of which is sustained happiness and self-actualization. Additionally, knitting is meditative; western psychotherapeutics have recently begun to catch on to the innumerable mental and physical health benefits of meditation, and its application as a therapeutic tool. Knitting is also creative and expressive; a significant body of research and therapeutic work attest to the benefits, and even necessity of, creativity and expression in our optimal mental and physical well-being. Finally, knitting occupies both the mind and the body; recently, non-verbal, body-based therapies are meeting with significant success in treating many mental-health conditions, particularly when their roots are in trauma.

Throughout this introduction, I endeavour to unpack some of the ideas, theories, and research that have resonated with me as practices that overlap with my own personal knitting experiences. These theories and research will serve as the foundation of my rationale for investigating textile arts such as knitting as tools of psychological and emotional transformation, and thus their use as an adjunctive modality in psychotherapeutic practice.

Theoretical Frameworks

Existentialism. “Striving to find meaning in one’s life is the primary motivational force in man.” (Frankl, 2014, p. 99) The existentialist perspective is deeply concerned with self-actualization through the pursuit and attainment of meaning in our lives. Frankl (2014), an existentialist authority and the founder of *logotherapy*, observed a connection

between a sense of meaninglessness and depression, criminality, and addiction. He postulates that, in the absence of meaning, we become despondent and thus try to fill the void with hedonistic pleasures, which may provide fleeting moments of satisfaction and brief feeling of happiness, but that ultimately, without meaning connected to the experiences, leave us in the existential vacuum of distress and boredom (Frankl, 2014). Frankl (2014) suggests that the search for these hedonistic pleasures is necessarily paradoxical, because the more we seek it out in our daily lives, the more it seems to elude us, leading to disappointment, emptiness, and potentially, crisis. Conversely, he insists that genuine pleasure is actually a by-product of living a meaningful life, and that if we seek to be self-actualized, we should strive for meaning, rather than for pleasure.

So how does one live a meaningful life? Where does one find meaning? Yalom (1980) suggests that these are difficult questions to answer, and that the search for meaning may, in fact, be as paradoxically evasive as the pursuit of pleasure. Therefore, “meaning, like pleasure, must be pursued obliquely,” (Yalom, 1980, p. 482). Gilbert (2006), for instance, uses the metaphor of the *hedonic treadmill* to describe the disconnect between what we think will make us happy, and what actually does. Effectively, he suggests that, as we directly pursue accomplishment in our lives, our expectations and desires increase in tandem, leading to a treadmill effect that leaves us perpetually dissatisfied (Gilbert, 2006). Once we accomplish one goal, we naturally seem to set our sights higher. “Thus it can be seen that mental health is based on a certain degree of tension, the tension between what one has already achieved and what one still ought to accomplish, or the gap between what one is and what ones should become.” (Frankl, 2014, p. 104-105)

Yalom (1980), however, posits that meaning is actually the by-product not of accomplishment, but of engagement, which is something that is relatively easy to attain in the average person's daily life, as we are intrinsically driven to engage. While we engage with our families, our work, and our interests, we find meaning in the things we do, which brings us satisfaction and self-actualization in the life that we are living. If, for whatever reason, we become disengaged in our lives, it becomes increasingly difficult to find (or create) meaning, and therefore it is difficult to be happy (Yalom, 1980). Yalom (1980) argues that engagement, therefore, is the *therapeutic answer* to meaninglessness; as such, the goal of therapy becomes the facilitation of engagement. Ultimately, the therapist's most fundamental task in their work with clients is to help them to remove obstacles to engagement (Yalom, 1980), and to help their clients to find flow, a concept that will be discussed in more detail in the following section.

Flow. It follows, then, that creative practices such as textile arts, are one way in which a disengaged person can reconnect, and that an engaged person can remain connected. In my own experiences, I have found knitting consistently interesting and engaging, for a variety of reasons. First, and foremost, it is intellectually stimulating, even after 30 years of practice. It is a skill that, like any, requires patience, dedication, and practice. There are always new stitches to learn, new techniques to try, and new design approaches to decode. There are shortcuts and hacks to discover, and countless YouTube videos to peruse on the subject. There are different types fibres, and their characteristics, to uncover; no two types of wool behave exactly the same way in knitted work, and animal fibres behave differently than plant fibres, further still. There are colour theories to learn, and infinite pallets with which to experiment. There is a rich

history to discover, from the incomprehensibly creative Irish free-form lace knitters, to the stalwart Victory Knitters of the second World War; from the dizzyingly-patterned Fair-Isle knitters of Scotland, Scandinavia, and Iceland, to the oft exploited but never supplanted Coast Salish Cowichan sweater knitters; from the Chinese marching camel-hair knitters, to the speedy, lushly colourful Andean artisanal knitters. Regardless of the path it takes, the interest and challenge I have experienced through knitting has been a fundamental, and at times the sole, source of meaning in my life; it has been a way to see myself in relation to myself, as well as in relation to others.

But further to it being cognitively engaging, knitting stimulates the physical senses as well. The sensation of delicate angora slipping through the fingers as it works up in to a luxuriously soft garment; the impossibly soft loft of suri alpaca against the skin; the meditative tattoo of needles working; the warm, gamey aromas of mohair and raw silk; the delight of observing as lace or cable patterns emerge row-by-row; the complete absorption in the depth and richness of a kettle-dyed wool. All of these things are part of the experience that draws knitters in to an engagement that is, at times, soft and contemplative, and at others, acute and focused. When I am knitting, my environment can become inextricably linked with the pattern of my knitting. For example, if I am watching a certain television programme as I knit, that programme somehow becomes intertwined with the pattern of the knitting, and when I resume that project at a later time, I will suddenly recall details of the programme. This same phenomenon occurs with conversations, locations, and even my own thoughts. At other times, I can become so completely absorbed in the knitting process that everything else fades in to the background.

This type of engagement is what Csikszentmihalyi (1990) refers to in his classic formulation on the psychology of optimal experience as *flow*, which he describes as “a state of concentration or complete absorption with the activity at hand and the situation. It is a state in which people are so involved in an activity that nothing else seems to matter.” (p. —) Csikszentmihalyi suggests that there is a distinct relationship between the challenge of a task, and the skill required to accomplish it; when these two things are in the right balance, which is to say that the challenge of the task is enough to require some concerted effort, but the participant’s level of skill is such that it allows completion of the task without excessive frustration, the person can enter a state of ecstatic engagement that is completely absorbing, deeply satisfying, and profoundly meaningful, i.e. *flow* (1990).

While he has gone on to apply the idea of flow to many aspects of life, with an emphasis on goals as the stated tasks, Csikszentmihalyi’s original research was conducted with creative people, and artists in particular. In interviews with composers, painters, and the like, Csikszentmihalyi noted that the artists’ most profoundly content moments in life occurred when they were in this state of flow (1990). Further to the existential notion of engagement as the true path to happiness, Csikszentmihalyi similarly argues that finding meaning is central to finding happiness in life, and that meaning is most easily found, logically, in doing things that are meaningful (1990). For knitters, that meaning exists not only in the planning, process, and product of their craft, but also in the *flow* that it creates in their practice and their lives.

Meditation and Mindfulness. In her book *Crochet Saved My Life*, Vercillo (2012) documents her struggle with severe, life-long depression, and the beneficial

effects that crocheting had in her life when she lacked the ability to engage with any other aspect of her life. Additionally, she relates the stories of almost two dozen other women, whose various challenges include post-traumatic stress disorder (PTSD), obsessive-compulsive disorder (OCD), schizophrenia, bipolar disorder, Alzheimer's disease, and fibromyalgia, and how crochet helped them to cope with their conditions (Vercillo, 2012). While the book is entirely anecdotal, and not empirical in its approach, it lends a great deal of insight in to how textile art has served as a tool of healing and growth for each of the participants included. Interestingly, in each of the stories related in the book, two themes consistently surface that illustrate how textile arts have been valuable tools in helping these women to cope: engagement is the first, and mindfulness the second.

Though there are many different approaches to, and schools of thought about meditation, one of its common central tenets is the objective of attaining mindfulness and presence. Mindfulness practices, such as meditation, aim to foster awareness, acknowledgment, and acceptance of our current state, to observe ourselves without judgment, rather than ruminating on the past wrongs, or worrying about future trials (Nanda, 2010). Recently, mindfulness-based practices such as breathing techniques and guided visualizations have become integral to many therapeutic approaches, such as narrative therapy and mindfulness-based cognitive therapy (MBCT) and dialectical behaviour therapy (DBT). Central to these modalities is the notion of developing a new attitude or way of thinking about problems through a heightened awareness of our *sel/ves*, that is, our current state, our needs, our processes, rather than of the issues that may be plaguing us, as entities in and of themselves (Nanda, 2010). There is a focus on

process as a means of suspending judgment and generating acceptance, both of the present moment as it is, and of its outcomes, whatever they may be. This acceptance, in turn, releases us from the burden of feeling we can or should be able to control things that, ultimately, we cannot. The great Robert Burns said "The best- laid schemes o' mice an' men/ Gang aft agely,/An' lea'e us nought but grief an' pain,/ For promis'd joy!" (Burns, 1989, p. 112) Essentially, even the most well-conceived plans for life's challenges can go sideways, and if we depend too much on those plans, doing so will lead to disappointment in the loss of a joy we never possessed in the first place. Mindfulness allows us to regard all of life's experiences without judgement, wherein we can have the freedom to choose our responses to those challenges, rather than reacting to them (Kabat-Zinn, 2013).

Corkhill (2013), a British psycho- and physiotherapist, has conducted groundbreaking research in the field of therapeutic knitting, and through her research, has demonstrated not only that the majority of knitters find the craft meditative, but also that they feel tremendous personal benefit from the practice because of the sense of presence and mindfulness it gives them. Additionally, Corkhill (2014) suggests that "using knitting to achieve a meditative state of mind could enable a much wider population to experience the benefits of meditation, as it doesn't entail having to understand, accept or engage in a prolonged learning period of the practice. It happens as a natural side-effect of knitting." (p. 35) Since Corkhill's (2014) research effectively suggests that knitting provides those who would not typically engage with a meditative practice, as such, access to its benefits, then it follows that the mindfulness skills that

knitters attain through their craft also have the potential to translate, or be generalized to, other aspects of their lives.

Collier (2012), a U.S.-based psychologist, has also explored the use of textile arts in therapy with women, and has similarly found that most women who engage in textile arts find the practice relaxing and meditative, and feel that it is integral to their sense of well-being (Collier, 2012). The work of both these researchers will be explored in further detail in subsequent chapters, but warrants mentioning here as evidence that my own feelings about the meditative benefits I have experienced with knitting seem to be shared by many other textile artists.

Expressive Arts and the Brain. As I mentioned earlier, I have experienced an interesting phenomenon in knitting wherein certain projects and their patterns become deeply intertwined with the cognitive and emotional processes I am experiencing when I am engaged in those projects. There are a number of factors in this phenomenon that are of great interest to me, not the least of which relate to it as a demonstration of both neuroplasticity, and mind-body connection. A growing body of research in the fields of neurology and psychology is beginning to help us understand more clearly the effects that artistic practices have on the physical brain. Research in to the psychological functions of imagery and creativity, the physiology of emotion, and the relationship between cognitive functions and neuroplasticity are providing promising support for the use of expressive arts as a therapeutic tool (Malchiodi, 2012).

Recent research (Ramachandran, from Malchiodi, 2012; Corkhill, 2014) has shown that both hemispheres of the brain are involved in artistic expression, contrary to the popularly held belief that our artistic tendencies are right-brain dominant. For

example, McNamee's (2003) research suggests that the cortical, limbic, and mid-brain systems are all involved in creating art, and that because all of these systems are activated, art-making's bilateral, visual, and kinaesthetic nature makes it a promising therapy in treating clients experiencing the dis-integration that is common following trauma. Corkhill (2014) also posits that creative tasks that stimulate bilateral, cross midline activity in the brain, such as knitting, are uniquely equipped to stimulate a complex cascade of brain functions that, together, are essential in treating and healing a variety of conditions, including depression, chronic illness, and chronic pain.

Additionally, current research in to acute stress and trauma has revealed that these are both emotional *and* physiological experiences, and that their treatment is most effective when it addresses both emotional and sensory memories (Malchiodi, 2012). In addition, evidence suggests that the visual cortex of the brain is triggered in similar ways between what we see, and what we imagine; that is to say, the brain's response does not seem to discriminate between what we actually witness, and what we visualize, and consequently, our bodies respond to vision and visualization in comparable ways (Damasio, 2000 in Malchiodi, 2012). As I mentioned earlier, guided visualizations have become integral to several therapeutic modalities; besides the meditative qualities previously discussed, these visualizations are effective treatments for a variety of physical and mental-health concerns because of the ways in which the visual cortex, and the body in turn, respond to positive, comforting imagery. Similarly, expressive arts stimulate the visual cortex both in the way practitioners imagine, and also actually see, the products of their labour (Malchiodi, 2012).

Finally, expressive arts therapies have been connected with improved cognitive function and memory, and have been linked to neuroplasticity (Alders and Levine-Madori, 2010 in Malchiodi, 2012). The success of such behaviourist-based therapeutic modalities as cognitive-behavioural therapy (CBT) is largely attributable to the understanding that the brain, and thus its chemistry, is *plastic*, which is to say that it is malleable, and capable of forging new neurological pathways and connections, throughout the entire lifespan (Cohen, 2000 in Malchiodi, 2012). In the therapeutic context, then, the brain's physiology and chemistry are capable of changing in desirable ways in response to the consistent application of reward-driven stimuli (Linden, 2006 in Malchiodi, 2012). Expressive arts, like knitting, are repetitive, rewarding, bi-laterally and visually stimulating, meditative, and engaging; it therefore stands to reason that textile arts, including knitting, crochet, weaving, needlepoint, and the like, have the potential to be much more than traditional women's work.

Purpose

The following three papers will examine the potential of textile art in a psycho-therapeutic context, as a tool of personal and social transformation. The first will examine the physiological basis of the benefits of knitting, by examining its connections to current research in neurology, neuroplasticity, and cognition. The second paper will look more closely at knitters' perceptions of the craft's psychological benefits, with emphasis on its utility as a contemplative practice with the potential to improve cognitive functioning, alleviate anxiety and depression, and to orient its practitioners away from negative moods and social isolation. Finally, the third section will discuss the psycho-

social aspects of knitting by exploring group processes, and the psychotherapeutic benefits inherent in supportive social groups.

Definitions

I would like to note, with respect, that while there seems to be some controversy in artistic and artisanal communities about the dissimilarity between the notions, practice, and understanding art versus craft, I will not be engaging in that discussion here, and will use the terms relatively interchangeably. While I acknowledge some distinction between the two, the focus of my discussion centres on the potential therapeutic benefit of engagement in a creative process, more than on the products of that process, and their significance as personal statements or practical objects. From this therapeutic perspective, I see both artistic and artisanal processes as having similar potential to be equally beneficial to a given practitioner, and therefore see no reason to distinguish between the two for the sake of this review.

That being said, the third paper in my investigation does examine the recent craft revolution as a social phenomenon, unique of any other artistic movement. In this case, the distinction will be respected, as *craftivism*, by its very nature, embraces this differentiation as one of its defining features, reclaiming the term to reinforce the power in its uniqueness as a vehicle of social change.

Limitations

The vast majority of studies that examine the mental-health benefits of knitting explicitly are anecdotal and descriptive in nature; participants in these studies tend to be self-selected, and by and large, belong to a narrow demographic band, in that they are predominantly female, middle-class, and caucasian. In regards to knitting studies

specifically, there are very few that meet the rigorous controlled, double-blind requirements of experimental trials, and therefore, this should be kept in mind when making inferences from their results. The knitting studies cited in the following three papers serve to situate textile arts in a therapeutic context, and present the argument that their psychotherapeutic potential warrants further bona fide experimental research.

Chapter One - The Physiological Basis of the Benefits of Knitting

Introduction

In my own experiences with knitting, I have found the craft to be cognitively challenging in the sense that it is highly patterned, that it requires an understanding of interconnected systems, that it requires a special set of mathematical skills, that there is a great deal of coding and decoding, and, more abstractly, that it translates metaphorically to other aspects of my life. As I have mentioned, I have noticed that, while knitting, aspects of my environment become integrated in to the pattern I am minding in the moment, and I am transported back to those aspects when repeating the pattern at a later time. I have also noted that different patterns create different rhythms in my body, and that with practice, those rhythms invariably become highly coordinated and fluent. I have always felt like the physical practice of knitting has helped to keep me cognitively sharp, and has contributed to my dexterity and coordination; this, in turn, led me to an interest in how knitting actually affects handcrafters physiologically and cognitively. This inquiry led down a fascinating path of sensory-motor, cognitive, and neuropsychological research, the bulk of which is outside the scope of this paper; however, skimming the surface of this immensely profound field provided some interesting insights in to the reasons why, and the ways in which, expressive arts affect our bodies and brains. In my line of inquiry, two conceptual frameworks stood out to me as foundation in understanding the physiological basis of the benefits of knitting: creativity and cognition, and neuroplasticity. These two areas frame the majority of the research presented in this chapter.

Conceptual Frameworks

Creativity and Cognition. Knitting is undeniably a creatively, and cognitively challenging task. Evolutionary psychology has described creativity as a set of instinctual cognitive adaptations that have evolved in humans as a means of resolving our ongoing problems of survival (Cosmides & Tooby, 1997). Modern theories on the psychology of creativity further suggest that creative behaviour is neurologically intrinsic, and is therefore a normal and necessary part of human cognitive functioning (Runco, 2007). In addition to meeting our basic survival needs, an organizational model of creativity proposed by Caselli (2009) suggests that creativity is a key component of self-actualization - that creative behaviour is intentional, and is part of what drives our motivation, perception, action, temperament, and social interactions. Dietrich (2015) further distinguishes three interacting types of creativity: *deliberate creativity*, wherein solutions to challenging problems are found through trial and error; *spontaneous creativity*, which accesses the subconscious to arrive at solutions without conscious effort; and *flow experiences*, based on Csikszentmihalyi's (1997, 2008) positive psychology notion that deep immersion in a creative task can lead to self-actualization and transcendence.

Because, it seems, that creative engagement is an essential component of our cognitive well-being, many modern psychotherapeutic modalities incorporate artistic expression as a means of helping clients to externalize and express their worldviews, and to imagine positive personal transformation (Malchiodi, 2012). Research shows that:

engagement in the arts is a health-promoting activity that supports psychosocial and cognitive stability and even some improvements. Art therapy research is proving that structured applications of art making stimulate attention span, decrease depression, and alleviate stress or boredom in those who are unable to engage in physical activities. (Malchiodi, 2012, p. 261).

Much of the evidence that supports the use of creative practices in psychotherapy comes from a multidisciplinary fusion of research on image-processing in the brain with theories of sensory-motor development, cognition, psychosocial behaviour, and self-psychology (Lusebrink, 2010). The present chapter will explore some of the research in to sensory-motor processes and cognition, as they relate to knitting, and similar practices, while later chapters will focus on the self- and social-psychological aspects.

The Plastic Brain. These cognitive processes, which support the use of creative practices in psychotherapy, have been shown to be inextricably linked to development, restructuring, and healing in the brain, a process and quality that is referred to as *neuroplasticity* (Doidge, 2015). Recent breakthroughs in neurological science have demonstrated that the human brain is not static in its structure and function, but rather is modified by its experiences - that “mental activity is not only the product of the brain but also a shaper of it.” (Doidge, 2015, p. xvi).

Doidge (2015) summarizes four types of neuroplastic change that occur with intervening tasks (such as knitting), including: *functional*, *synaptic*, *neuronal*, and *systemic*. *Functional* neuroplasticity describes near-immediate changes in symptoms that result from a task activating homeostasis in brain systems (Doidge, 2015). *Synaptic* neuroplasticity occurs when the given activity creates new and longer-lasting changes in

the synaptic connections between neurons; there may be an increase in synapse size and number of receptors, for example, the strength of the electrical signal may be amplified, or the efficiency of the signal transmission may be improved (Doidge, 2015). *Neuronal* neuroplasticity involves actual structural changes in the neurons themselves; this occurs when a particular task activates certain neuronal circuits over an extended period of time (Doidge, 2015). Finally, *systemic* neuroplasticity occurs when the previous three stages have stabilized, and the neuronal networks become self-correcting and self-sustaining (Doidge, 2015).

Further to the exploration of sensory-motor processes and cognition as they relate to creative practices, this chapter will also engage with the ways in which artistic doing contributes to positive structural and functional changes in the brain, and how those changes contribute to mental well-being.

Neurology, neuroplasticity, and cognition in knitting

While there is a very limited body of research in to the explicit neurological effects of knitting, or any expressive arts, for that matter, there seems to be a growing interest in the ways that expressive arts affect the brain. Art therapy is a well-established, evidence-based mainstay in occupational and psychotherapies, and its efficacy in treating, or serving as an adjunctive therapy for, many mental-health issues is widely documented (Corkhill, 2014; Malchiodi, 2012). However, its uniqueness in marrying creative expression, body movement, symbolism, manipulatives, and artefacts, with the standard psychotherapeutic components of more traditional, talk-based therapies, seems faintly understood, in terms of *why* it is effective. Through an analysis and synthesis of some of the research that examines some of the cognitive,

physiological and neurological processes that are occurring during engagement in creative tasks, I aim to draw parallels between those processes, their benefits, and knitting. I make these connections in recognition that many of my conclusions will be theoretical and inferred, based on logical similarities between the processes of knitting and other expressive arts, rather than empirically validated correlations. It is my hope that these inferences might suggest areas for further research that more explicitly examines the psychological and physiological benefits of knitting on individuals, and its potential as an adjunctive modality in personal transformation.

As previously discussed, many experienced knitters can enter a seemingly automated state of *flow* (Csikszentmihalyi, 1997, 2008) when knitting, but the practice nonetheless requires a complex integration of many sensory-motor systems in the body and the brain, including: coordination of all ten fingers, and positioning of hands; visuospatial orientation, and hand-eye coordination; recognition and recall of stitches and patterns; counting, and spontaneous arithmetical calculation; activation of creative centres in the brain; mindfulness of pacing, tension, and rhythm, and control thereof in the balancing of gross motor skills with fine manual dexterity (Corkhill, 2014). In fact, the patterns of movement in knitting have been found to be cognitively beneficial, in the sense that they are, by nature, coordinated and bilateral, thus crossing the midline of the body and, necessarily, the brain; that they are rhythmic and repetitive; and finally, that they are automatic (Corkhill, 2015). Additionally, Corkhill (2015) suggests that the hand positioning of knitting creates a buffer, which increases personal space, and can foster feelings of safety and comfort. Further, extensive research illustrates that images

and visualizations can significantly affect the brain, and can therefore be manipulated to create positive changes.

Bilateral, cross-midline patterns of movement. So, how are these movements and patterns beneficial to the brain? While the manual tasks of knitting run automatically (Corkhill, 2015), like background applications in the experienced knitter's operating system, they nonetheless actively stimulate many brain systems, simultaneously. For example, Malchiodi (2012) illustrates that the sensory and kinaesthetic tasks of art-making activate the midbrain and brainstem, while the more abstract planning, decision-making and symbolizing processes involved stimulate the brain's cortical areas. Further, the limbic system, which is central to affect and emotion, is also highly active during engagement in an expressive, artistic task (Malchiodi, 2012). Additionally, the action of knitting is, by nature, *bilateral*, which effectively means that, since both the right and left hand are involved, and both logical and creative processes are also occurring simultaneously, both hemispheres of the brain are activated, and thus neurological pathways in both hemispheres *and* across the corpus-callosum are being created and reinforced (Corkhill, 2014), as demonstrated by Doidge (2015). Significant advances in imaging and research techniques are now allowing us to see more of the ways in which this building and reinforcing of neuronal activity in the brain contributes to our physical and mental well-being.

Because expressive arts therapies stimulate myriad systems in the brain and contribute to the construction of new neuronal pathways (Doidge, 2015), they have been connected with improved cognitive function and memory, and have been linked to neuroplasticity (Alders & Levine-Madori, 2010). Ongoing research indicates that the

brain continues to be *plastic*, that is, malleable and capable of forging new neurological pathways and connections, throughout the entire lifespan (Cohen, 2000; Corkhill, 2014; Doidge, 2015; Greenwood & Parasuraman, 2010), and that this plasticity is largely responsible for our ability to be adaptive, to learn, to *rewire* negative patterns, and to remain cognitively healthy, well in to our old age (Greenwood & Parasuraman, 2010). For example, recent research has demonstrated that regular engagement in cognitively stimulating activities, such as knitting, decreases the risk of developing mild cognitive impairment (MCI) (Geda, et al., 2011; Geda et al., 2012), slows cognitive decline, combats dementia and ameliorates motor function in degenerative conditions such as Parkinson's disease (Doidge, 2015; Geda, et al., 2012; Gutman & Schindler, 2007; Valenzuela, et al., 2012), and facilitates maintenance of spatial abilities well in to old age (Bailey & Sims, 2014; Corkhill, 2014). It follows, then, that bilateral tasks, in particular, which encourage this neuroplasticity across the midline of the brain, are not only instrumental in maintaining a healthy, active brain throughout the lifespan, but also in facilitating changes in thinking processes, entrenched negative patterns, and trauma-based pathologies.

While a detailed analysis of the effect of mood and other psychological disorders on the structural features of the brain is outside the scope of this paper, it is significant to my argument to note that recent research confirms that mood disorders are closely linked to deficits in cognitive flexibility, and that these impairments are directly related to the architectural structure of the cortex (see: Piguet, et al., 2016; Lane, et al., 2013; Valenzuela, et al., 2012; Lane, et al., 2010). Occupational- and physiotherapists have long recognized the importance of bilateral movement patterns in the treatment of

neurological injuries, because such practices have consistently been demonstrated to be critical in rebuilding neurological pathways, and stimulating growth and adaptation to damaged systems; knitting constitutes such a "complex, bilateral, coordinated pattern of movements," (Corkhill, 2014, p. 32), and because that coordination of movement also requires that neurological signals cross the mid-line of the brain, additional integration of brain and body systems is required (Corkhill, 2014).

These neurological benefits of bilateral activities are illustrated in McNamee's (2005) research with *bilateral art*, a form of art therapy with its philosophical and methodological bases in neurology. Tasks that cross the midline of the brain "[engage] both dominant and non-dominant hands in the process of creating images in response to opposing cognitions or feelings," (p. 545), thus promoting the brain's plasticity, and facilitating an integration of the client's cognitive "knowing" with their their emotional "knowing." In the practice of *bilateral art*, clients are actively encouraged to use both their dominant and non-dominant hands to create, and re-trace drawings, which express conflicting emotions (McNamee, 2005).

The bilateral art protocol engages both dominant and non-dominant hands in the creation of images in response to polarized beliefs, cognitions or feelings...[it] purposefully engages right and left hemispheres of the brain, as well as multiple sensory systems, in responding to client identified conflicted elements of experience. Positive and negative thoughts associated with the element of experience are associated with left and right hands for responsive drawings and tactile explorations by opposing hands. The goal of the protocol is to facilitate

integration of both positive and negative thoughts and to strengthen the client's belief in the positive thoughts (McNamee, 2006, p. 7-8).

The research, while acknowledged to be limited in scope, suggests that bilateral art facilitates (re-)integration of cognition and emotionality, indicating fewer distortions in thoughts and helping clients to focus more on positive feelings (McNamee, 2006). The aforementioned research on neuroplasticity seems to support McNamee's findings, in that it demonstrates that artistic expression and bilateral movement affect the architecture of the brain, and can thus fundamentally influence cognition, emotion, and behaviour. Additionally, research in to the neurology and physiology of trauma, which will be discussed in some detail later, provides similar evidence.

Coordinated, rhythmic, and repetitive patterns of movement. In addition to knitting's bilateral nature, the craft has tremendous potential to be beneficial in its coordinated, rhythmic, and repetitive patterns of movement. Repetitive, reward-driven activities have been found to stimulate positive chemical, and even structural, changes in the brain (Doidge, 2015; Linden, 2006), thus ameliorating the negative effects of various mental health concerns, including anxiety, depression, obsession/compulsion, and trauma (Lambert, 2010; Malchiodi, 2012; Perry, 2008; van der Kolk, 2006). Lambert (2005, 2010) posits an anthropologically-based theory, which observes that modern decreases in the extent to which we use our hands in repetitive, reward-driven tasks, (such as foraging for berries or weaving garments), are arguably a disruption in the effort-based reward circuits of the brain, and that such disruptions could be at the root of the epidemic of anxiety and depression facing our modern society.

Thus, although there are many ways that a body can exert effort to acquire resources, humans are unique in their ability to acquire resources through manipulations with their hands, and it is likely that activities requiring fine motor skills, and the accompanying brain activity associated with these manual efforts, activate the 'motive' circuit and related areas to produce strong associations between one's efforts and acquired rewards. (Lambert, 2005, p. 503)

In essence, our brains have evolved to understand that repetitive tasks result in life-sustaining benefits.

Seminal animal studies have found that repetitive movements increase levels of the neurotransmitter serotonin in mammalian brains (Jacobs & Fornal, 1999, 2002); Lambert's (2005) analysis of several studies with raccoons and other manually dexterous mammals confirms that repetitive movements, particularly of the hands, lead to increased levels of serotonin and dopamine, both of which are associated with feelings of pleasure and well-being, and the disruption of which is connected to anxiety, depression, and even psychosis. Lambert (2005) thus convincingly infers that, as advances in technology have altered our lifestyles such that our survival no longer depends on our daily engagement in manually complex tasks, the resulting decrease in such activities has led to particular deficits in our cognition, motivation, and emotionality. It follows, then, that activities that access these circuits in the brain could theoretically serve not only as protective factors against a variety of mental health concerns, but also as effective supplementary therapeutic tools in treating them.

In fact, current research on affective disorders in humans indicates impairments in motor functions. A study conducted by Sassayama, et al. (2012) found that manual

dexterity was significantly impaired in clients experiencing depression, and more severely so in those experiencing a depressive cycle in bipolar disorder. While it is not clear whether the deficit in motor function precedes, or is caused by the depression, the correlation warrants further investigation, as such a connection may provide insight into why somatic approaches are so effective in treating affective disorders, and what treatment strategies might be most effective in remedying depressive symptoms.

While the efficacy of exercise in treating mood disorders has been well-researched, and is broadly accepted as a critical factor in recovery (see Klein, et al., 1984; Morris, et al., 1990; Dey, 1994; Solberg et al., 1999; Dimeo, 2001; Lindwall, et al., 2007; Ranjbar, et al. 2015), relatively little research has been conducted on finer motor functions, such as manual dexterity, and their potential efficacy in treating affective disorders. However, similar to the Sassayama, et al. (2012) study, another such study by Lin et al., (2015) found that clients with schizophrenia also showed notable impairments in manual dexterity during a concurrent performance task, and that there was a negative correlation between the extent to which the manual dexterity was impaired, and the client's functioning in daily life. The researchers concluded that dual-task training, including a manual task, could be therapeutically significant in improving the daily functioning of people experiencing schizophrenia (Lin, et al., 2015). There thus seems to be grounds for further research into the role of repetitive, fine motor functions in affect, and its regulation.

In addition to their potential efficacy in treating mood disorders, coordinated, repetitive movements have also been found to be effective in helping those experiencing post-traumatic stress disorder (PTSD). As previously discussed,

responses to acute stress and trauma are rooted in both emotions and physiology, and PTSD is, in fact, clinically defined in terms of both psychological and somatic symptoms (DSM V, 2013). Malchiodi (2012) posits that “highly charged emotional experiences, such as trauma, are encoded by the limbic system as a form of sensory reality. For a person’s experience of trauma to be successfully ameliorated, it must be processed through sensory means.” (p. 21) Research around the physiological component of trauma demonstrates that during a traumatic experience, the threat (or perception thereof) initiates a hyper-aroused autonomic response in the brain, which does not resolve itself in the way that more commonplace stressful events do (Rosenblum & Taska, 2014).

Levine’s (1997) influential work on trauma responses distinguishes between active and passive physical responses to trauma; the former could take the shape of *fight or flight* reactions, heightening of the senses, sharpening of orientation and vigilance, or any other physical responses initiated by the acute arousal of the autonomic nervous system (ANS), which serve to ensure survival. Passive physical defences, on the other hand, occur when an active physical response might compromise survival (Levine, 1997); these might include the *freezing response*, avoidance, submission, and/or obedience (Nijenhuis & Van der Hart, 1999). Ogden (2000) observes that “complete execution of effective physical defensive movements do not take place during the trauma itself...such interrupted or ineffective physical defensive movement sequences contribute to trauma. (sic) symptoms.” (p. 155) The inability to escape, resist, or fight creates a dissonance between the brain and the body that results in a persistent state of exaggerated psychological and physiological arousal

- the hyper-vigilance, hyper-arousal, and hyper-motoric states associated with PTSD (van der Kolk, 2006; Ogden, 2000).

Consequent to the brain's threat responses remaining acutely aroused well after the threat has ceased, the brain and the body develop a sort of dis-integrated state, wherein formerly inert stimuli can create alarm signals in the brain, and physical signs of acute stress, coupled with an inability to either conceptualize or physicalize a response that resolves those feelings (Rosenblum & Taska, 2014). Therapeutic interventions that incorporate movement, particularly coordinated, repetitive actions, help to reintegrate the brain and the body by:

- increasing body-awareness, and familiarity with changes in the body, as it responds to stress (Wells, et al., 2016; Ogden, 2000);
- helping the client to self-regulate affect and sensorimotor arousal through mindful awareness-building, naming, and articulation with those states (Ogden, 2000);
- highlighting the distinction between emotional and sensorimotor arousal, so as to recognize how the emotional state is manifesting physically in the body, and to use constructive strategies to address those symptoms (Ogden, 2000)
- promoting the action of the parasympathetic nervous system (PNS) (Wells, et al., 2016), which is a critical system in regulating the body's stress response (Nolan, 2016);
- stimulating the vagus nerve to moderate environmental engagement and heart rate (Wells, et al., 2016; Porges, 2003);
- creating a meditative state similar to those of T'ai Chi or yoga practices that, because they are task-oriented, provide a focal point that can reduce the likelihood

that the difficult memories or emotions accessed during the practice will lead to flooding (Payne, et al., 2015)

While an exhaustive exploration of this topic is outside the scope of this paper, the examples provided serve as evidence that, effectively, it is critical that therapeutic interventions for trauma incorporate expression and processing of both somatic and psychological systems in order to resolve them (van der Kolk, 2006), and that coordinated, repetitive movements show significant promise in reintegrating the emotions with the physical body.

In fact, in addition to helping with reintegration, research suggests that repetitive patterns of movement, particularly those that also contain a visual component, are propitious complementary interventions in reducing the frequency of flashbacks and intrusive thoughts related to trauma. Holmes and Hennessy (2004) conducted a series of studies in which participants were shown films depicting real-life traumatic events in order to later evoke the repeated, intrusive imagery that is a common symptom of PTSD. While the control groups simply observed the films, the experiment groups were given a spontaneous visuospatial tapping task in one experiment, a practiced visuospatial tapping task in the second, and a verbal distraction task in the third. Interestingly, both groups given the visuospatial tapping tasks experienced significantly fewer intrusive thoughts about the film in the subsequent weeks as compared to those who observed with no task. However, the groups who were given a verbal task experienced more frequent intrusions than those who had no distraction, and those who had a visuospatial task, during the film. The researchers concluded that, during traumatic events, certain interference tasks can compete for the brain's resources in

encoding memories of the event, but that the *content* of the competing task is significant. The results of the study suggest that the encoding interference is not simply a result of distraction, but rather that the repetitive physiological action of the tapping task, which accesses similar resources in the brain to those needed for memory encoding, compete for, and therefore disrupt the brain's ability to integrate the traumatic memories, but without affecting long-term memory. Because of these findings, Holmes & Hennessy (2004) concluded that engagement in repetitive, visuospatial tasks could potentially inoculate trauma survivors from experiencing flashbacks and intrusive thoughts.

A later study by Holmes, et al., (2011) again hypothesized that, because the brain's cognitive assets and structures are selective and limited, and that research into the neurology of memory demonstrates that memory-formation can be disrupted within a critical time frame following a traumatic event, a repetitive, visuospatial task could possibly serve as a sort of cognitive prophylactic against trauma-induced flashbacks, as such a task, again, would compete for the same visuospatial resources required to form memories of the trauma. Similar to the Holmes & Hennessy (2004) studies, the researchers in this study showed trauma-inducing films to a group of participants. Following the viewing, the experiment group was then asked to spend ten minutes playing the computer game *Tetris*, wherein falling blocks of different colours and shapes must be rotated, through taps on a console, to fit together like puzzle pieces; the control group was given no task, and simply sat quietly for ten minutes. The *Tetris* group reported fewer than half the number of the flashbacks than the control group did in the week following the viewing, from which the the researchers concluded that "recently

formed sensory-perceptual memories are vulnerable to manipulation 30-min following watching a traumatic film” (Holmes, et al., 2011). They further confirm that, because flashbacks come from a over-representation of the visuospatial information processing related to the traumatic event, that interfering with visuospatial processes before memory consolidation can occur seems to have a prophylactic effect against flashbacks (Holmes, et al., 2011).

While the physiological and neurological benefits of knitting have not yet been explored extensively, evidence from research in to the effects on the brain and body of engaging in visuospatial, repetitive, and artistic practices, demonstrates that favourable structural, chemical, and cognitive changes can result. From this, because of its visuospatial, bilateral, repetitive nature, it can reasonably be inferred that knitting may serve well as an adjunctive psychotherapy, because of its potential in positively influencing the structures and chemistry of the brain in similar ways to other creative and/or repetitive practices. But in addition to its potential physiological and cognitive benefits, textile arts serve a psychologically beneficial purpose as well, the like of which has experienced a surge in research in the last decade. The following chapter will explore the psychological benefits of knitting in more detail.

Chapter Two - The Psychological Basis of the Benefits of Knitting

Introduction

When I reviewed the aforementioned research by Collier (2011) and Riley, et al. (2013), showing that many handcrafters feel tremendous psychological benefit from knitting, I was not surprised. My own subjective experiences have led me time and again to the conclusion that textile arts are not just enjoyable pass-times, but that they are actually *good* for me, that their practice makes an active and important contribution to my ongoing mental health, and that they have, in fact, helped me to cope with, and recover from, psychological and emotional dysregulation. But I have also found that I am not alone in my sense of the craft's benefits. Friends, family members, and even strangers, have related to me, at one time or another, their own stories about the ways in which knitting has accompanied them through a lonely time, has helped them to cope with depression, has distracted them in times of worry, has given them something to focus on when chronic pain has plagued them, and so on, a sense that research demonstrates is shared by many knitters (Collier, 2011; Corkhill, 2014; Riley, et al., 2013).

As an aspiring mental-health practitioner, and an avid knitter, I have both professional and personal motivations in finding empirical research that explores the bona fide health benefits of crafting arts, and their potential application in a psychotherapeutic process. This curiosity is what ultimately led me to my central research question: Can textile arts serve as a vehicle of personal transformation, and what are the implications for their use in a psychotherapeutic setting? While I have long been aware that helping fields such as art therapy (AT) and occupational therapy (OT)

often use crafting therapeutically (Corkhill, 2014; Malchiodi, 2012), I had little understanding of what the basis of research was that made crafting part of their evidence-based practice. This line of questioning led me to a few key researchers and studies, which have served as the launching point for my own inquiry. Through each of these key pieces of research, similar and overlapping themes began to emerge. It is important to acknowledge that all three of the studies are limited, in that they are largely anecdotal and/or descriptive, rather than empirical and experimental in design, and that the samples are self-selected, not random, and therefore represent limited demographics. However, the studies' value lies in the qualitative descriptions of the transformational experiences of the participants, and they provide an informative starting point for further, more rigorously experimental research. The following is a summary of these foundational studies, and an examination of some of their common themes as they apply to the use of textile arts as adjunctive modalities in psychotherapeutic practice.

Three Foundational Studies

In the book *Crochet Saved My Life: The Mental and Physical Health Benefits of Crochet* (2012), Vercillo, a freelance writer and crafting blogger, relates her own journey with debilitating depression, and chronicles the ways in which crocheting helped her to cope, to reconnect, and to recover. After blogging about her experiences, and consequently connecting with other crocheters online, she notes that she quickly discovered that she “was not the only one who felt that crochet had been critical to saving one’s mental health. In fact, it became obvious to [her] that it is more often than not the case that crocheters feel that they experience some personal health benefits

from the craft although that may not be their main motivation for crocheting.” (p. 7). In addition to detailing her own experience, the book relates the real-life stories of women with such varied physical and mental health conditions as schizophrenia, intermittent blindness, Lyme disease, several anxiety disorders, PTSD, and addiction, and how these women’s perceived their engagement with crochet as a therapeutic tool in coping with their illnesses. Vercillo’s work is, in effect, a series of case studies. While case studies are not ideal for demonstrating generalizability, they are almost unrivalled for showing how a psychological process unfolds (Cresswell, 2013).

Though each woman’s health concerns were unique, through their stories, several themes emerged around the adjudged benefits of crochet. Participants consistently reported that crocheting helped them to cope with low mood, depression, pain, and anxiety, by giving them something pleasurable to focus on and keep busy with, by helping them to be mindful of the present moment, and by helping them to feel productive (Vercillo, 2012). Many respondents observed that crochet’s rhythmic and repetitive nature helped them to feel relaxed, and that its varied colours and textures brought them comfort and pleasure (Vercillo, 2012). Many of the women concluded that crochet had provided them with reflective, introspective time that allowed them to reconnect with themselves, and to see themselves as something other than their disease or disorder (Vercillo, 2012). Further, making-for-others allowed them to connect vicariously, through the process of crocheting, with those for whom they were creating (Vercillo, 2012). Almost all of the women found that crochet helped to boost their self-esteem through the pride they had in learning something new, creating and completing projects, mastering techniques, and giving away artefacts altruistically (Vercillo, 2012).

While the stories in Vercillo (2012) are anecdotal, and the participants are self-selected, they nevertheless serve as an promising testament to the subjective experience of over two dozen women, all of whom praise the physical and mental health benefits of textile arts in their lives; the stories demonstrate the participants' psychological processes through their healing journeys, and provide a heady starting point for further investigation in to the therapeutic potential of textile arts.

Corkhill (2014), a physiotherapist who has been using knitting therapeutically in her practice for over a decade, has collaborated with occupational therapists and psychotherapists to conduct extensive research in to the health benefits of knitting, both from an OT perspective, and also as it applies to mental health and well-being. Corkhill maintains an online community called *Stitchlinks*, a website that serves as a hub for crafters, researchers and clinical practitioners interested in textile arts as a therapeutic medium. Their mission is “to use knitting and other therapeutic creative activities to improve wellbeing generally, but also to complement medical treatments in the self-management of long-term health conditions.” (Stitchlinks Welcome, n.d.).

The bulk of Corkhill, et al.'s research has been summarized in the book *Knit for Health and Wellness: How to Knit a Flexible Mind and More...*(2014). The seminal study in their body of research consisted of an online survey of over 3,500 knitters, which examined themes that had emerged through their literature review as they related to self-reported reasons for participating in textile arts, which, similarly to those in Vercillo's (2012) book, include: calmness, stress relief, happiness, practical skills, cognitive skills, socialization, communication skills, and coping skills (Riley, et al., 2013). “For the majority of respondents in this study, knitting was perceived as a means of unwinding

from the stresses of everyday life, or as a coping strategy for those with anxiety problems, pain, or depression.” (Riley, et al., 2013, p. 52). Again, the knitters in this survey consistently reported that they found the rhythmic, repetitive nature of knitting to be calming and meditative; that knitting made them feel happy, and helped them to repair difficult mood states (particularly when done in a group setting); and that the cognitive challenges of knitting helped them to either process or distract themselves from problems (Riley, et al., 2013).

While much of the research has acknowledged flaws in areas such as research design and demographics, it nevertheless examines the psychological benefits of textile arts from both qualitative and quantitative foundations, and begins to propose connections to current neurological and psychosocial research, offering another promising starting point for further investigation in to the health benefits of textile arts, and their application in therapeutic settings. Exploration of these themes in the context of textile arts in controlled, double-blind experiments with random-, rather than self-selection, would provide more valid and generalizable results that could validate the use of textile arts as adjunctive modalities in psychotherapy.

Collier (2011), a psychologist and lecturer at the University of Arizona, has also conducted a great deal of research in to the mental health benefits of textile arts, from a variety of sociocultural perspectives, including working with older women, and with cultural minorities. Her foundational study examined knitting and well-being from the basis of four hypotheses: that hand-crafters tend to have tried a variety of techniques; that most hand-crafters engage in textile arts for pleasure rather than for economic or professional gains; that hand-crafters will likely show above-average well-being; and

that engaging in textile arts for psychological reasons is an effective means through which to deal with challenging emotions (Collier, 2011). The study surveyed 821 women, and used quantitative instruments to measure: affect; quality of life; depression and anxiety; alcohol risk; and textile making and well-being in handcrafters (Collier, 2011). The findings of the study confirmed all four hypotheses (Collier, 2011); of most significant interest to my own research, however, were the themes surrounding women's reasons for engaging in textile arts, and their perception of its benefits to their well-being. Similarly to the previous two studies, some of the frequently reported reasons for crafting included:

...the feeling that it was part of their identity, and the sense that it was a vital means of expression. For other women, motivation was related to the grounding quality of textile making...the repetition and the rhythm involved...a sense of continuity in their lives. Psychological fulfillment, the desire to do things for others, and social fulfillment...coping with illness, cognitive coping, and not wanting to have "idle hands."...an important source of cognitive coping or intellectual stimulation... (Collier, 2011, p. 110).

Further, much like reported themes in Vercillo's (2012) collection, and Riley, et al.'s (2013) findings about the perceived benefits of crochet and knitting, participants in Collier's (2011) study reported that the aesthetic and grounding qualities of textile arts helped them to change their negative mood, and absorbed them in a productive activity.

In general, the themes in Vercillo's (2012) anecdotal review aligns well with the results of Collier's (2011) and Riley, et al.'s (2013) quantitative-descriptive studies; the objectives were to examine the perceived, and self-reported mental-health benefits of

engaging in textile arts, paint a picture of how participants see their craft(s) as mentally, emotionally, and socially beneficial. However, because they lack the stringency of experimental design, and focus rather on self-selected crafter's perceptions, they do not necessarily provide empirical substantiation of the benefits of textile arts that evidence-based practice warrants, and that would justify their use in a therapeutic setting.

Due to the paucity of experimental research on the subject, at this point only inferences based on experimental research with similar, or thematically-related, practices, can be made. When we recognize, for example, that many knitters perceive their craft to be meditative, we can go to the existing body of research on the benefits of meditation, and begin to infer the benefits of knitting as being similar to those of meditation. When we understand that engaging in textile arts can be deeply absorbing, creative, expressive, and productive, we can infer that knitters are entering *flow* (Csikszentmihalyi, 1997; Csikszentmihalyi, 2008), and are thus experiencing its well-documented benefits.

While the three foundational studies I examined are rich in such overlapping themes, three areas in particular were of interest to me, from a therapeutic perspective. Each of these three themes relate to existing bodies of psychotherapeutic research that, when taken in the context of their relationship to textile arts, provide a convincing framework from which to begin to make inferences about, and conduct experimental research in to, the potential therapeutic application of crafts such as knitting. The following is a closer examination of these thematic areas, which include meditation, cognitive functioning, and affect management.

Knitting as Meditation

Operating within my hands, these tools demonstrate the richness of life beyond my own limited intellect. Knitting reminds me that I'm like the yarn I knit. The substance of me — carbon, water, organic matter — has been in existence for eons, way before the specific incarnation of me drew my first breath. Like a ball of wool waiting to be transformed into a sweater, I existed in some form long before I existed. (Murphy, 2002, p. 30).

Knitting and other textile arts have several factors in common with typical meditation practices, primarily in that they are both a type of purposeful engagement in a mindful and focused activity (Manning, 2004). The concept of *bare attention*, a type of deliberate focus, is central to many meditation practices, and is, as the aforementioned studies illustrate, a natural side-effect of knitting practice (Collier, 2011; Vercillo, 2012; Corkhill, 2014). In Buddhist meditation, *bare attention* refers to:

...the 'primary' attention that sees through the 'content' mind to the underlying processes. In laying bare the reality of mind/body phenomena, bare attention reveals their salient characteristics without interfering with them. The art of 'bare' attention is to register the predominant object in your experience as it arises, without preference or interference, as a witness. (Pannyavaro, 2012).

In knitting, the crafter *lays bare* the reality of mind/body with deliberate and mindful awareness of the body; what the hands are doing, the sensations that the skin, eyes and ears are experiencing; and the mind's place in coordinating movement with pattern and thought. Necessarily, knitters must "register [the knitted artefact] in [their]

experience as it arises”, because the slow and mindful process of the craft is the focus of their experience, while the artefact is that which arises.

In addition, knitting and meditation both centre, by nature, around a focus-object (Manning, 2004). While different meditation practices may employ different types of focus objects, these concentration points tend to be rhythmic and/or patterned: mantras and chanting, for example, are sounds, words, or phrases that are repeated throughout the practice; mandalas are gazing-images with repeated, fractal-like patterns of lines and colour; many practices encourage one to follow the rhythmic inhalation and exhalation of the breath. The “object of focus...empowers us to retreat from our thoughts and feelings back to the sanctuary of our still and relaxed place...The object of focus for the mindful knitter is the repeated formation of the knitted stitch.” (Manning, 2004, p. 9) This rhythmic, repetitious, patterned formation of stitches provides the knitter with a task that is complex and engaging enough to hold her/his attention continuously, but patterned and repetitive enough to simultaneously release her/him from active thought; as such, thoughts can pass through as observed objects of the mind, rather than patterns to engage with, analyze or judge. This is *bare attention*. When we are in a state of bare attention, we are grounded in the present, mindfully observant of that which is in front of us, reserving judgment and simply oriented to that which moves through us.

Many meditative practices focus on *bare attention*, not only as a means of attending, but also as a way to deeply quiet the mind, to enter a state that is *transcendent*, to “go beyond even the finest impulse of thought, and experience pure consciousness, the source of thought - the field of infinite creativity and intelligence.”

(*What is Transcendental Meditation?*, 2016). While the objectives of many mindfulness practices are not necessarily so esoteric, this liberation from heady cognitive processing seems to come as a natural corollary of meditation for many practitioners. S. Lydon (1997), author of *The Knitting Sutra: Craft as a Spiritual Practice*, argues that “in the quiet, repetitive, hypnotic rhythms of creating craft, the inner being may emerge in all its quiet beauty. The very rhythms of the knitting needles can become as incantatory as a drumbeat or a Gregorian chant.” (1997). Knitting, by its very nature, creates space, even emptiness, in the mind, that allows the crafter to transcend his/her thoughts to be in the creative rhythm of the task, much like that of other meditative practices.

Mindfulness and its benefits. The notion of mindfulness as being key to mental well-being is not new to the psychotherapeutic world. Freud, for example, frequently used *free-association* in his practice; he believed that it dis-entrenched clients from their conscious mind, and granted them the space to allow their attention to become lightly suspended over their psychological landscape (Freud, 1912). Existential therapies, which focuses on *here-and-now* experiences as the means through which to gain self-knowledge and acceptance, also emphasizes mindfulness practice (GoodTherapy.org, 2015); Gestalt therapist Perls (1973) suggested relaxed attention is key in coming to perceive our personal *gestalts*, i.e. seeing the self as a whole, greater than the sum of its parts. Transpersonal psychology emphasizes the importance of mindfulness in bringing into conscious awareness that which has been tucked into the dark recesses of our consciousness, allowing for processing and transcendence (Wilbur, 2000). Cognitive behavioural therapies help clients to pay attention to how thoughts, feelings, and behaviours influence each other in order to identify and break harmful patterns

(Safran & Segal, 1990), and mindfulness-based cognitive therapies (MBCT) have become standard practice in many modern brief-therapy models. Dialectical behavioural therapy (DBT), for example, places great emphasis on using mindfulness skills to help clients use a dialectic world-view in order to use their mindfulness of the present to take pause, and behave more effectively in the future (Linehan, 1993; Follette, et al., 2006).

Mindfulness practices like meditation have been the subject of a surge in research in the past few decades in the West, as clinicians and practitioners alike have come to recognize the extent of their benefits and therapeutic potential (Coffey, et al., 2010; Goodman & Calderon, 2012; Kabat-Zinn, 2014; Linehan, 1993; Siegel, 2007) Follette, et al. (2006) identify some important correlates between Western psychotherapy and Buddhist philosophy about mindfulness practice. They note that both Buddhist mindfulness practice and Western psychotherapy “have parallel goals in that both seek to foster growth, understanding, and freedom from suffering. Furthermore, both share a fundamental assumption that there is an inherent potential within each person toward continual growth...[they] share an emphasis on a contextual understanding of the world.” (Follette, et al., 2006, p. 48).

However, the authors also note an important difference between psychotherapeutic and Buddhist objectives, in that psychotherapy tends to work toward resolving psychological issues, whereas Buddhist mindfulness practice is intended to be non-striving (Follette, et al., 2006). Therapies like DBT strive for the middle path, attempting to create a balance between acceptance of the present moment, and self-betterment for the future (Follette, et al., 2006; Linehan, 1993). Regardless of this

difference in objectives, both mindfulness practices and psychotherapy seem to regard individuals as having almost unlimited potential for transformation.

Mindfulness practices have been found to be beneficial in treating a variety of physiological and psychological conditions, including, but not limited to: addiction and alcoholism (Bowen et al., 2014; Garland, 2010); acute stress (Singh, et al., 2012); affective dysregulation (Leung, et al., 2014); anxiety (Coffey, et al., 2010; Kabat-Zinn, 2012; Ludwig & Kabat-Zinn, 2008; Shen et al., 2014); chronic pain (Kabat-Zinn, 2012; Vago & Nakamura, 2011); depression and relapse (Coffey, et al., 2010; Kuyken et al., 2008; Teasdale et al., 2000; Vega et al., 2013; Williams, 2008; Williams & Kuyken, 2012); PTSD (Gonzalez et al., 2016; Follette, 2006; Goodman & Calderon, 2012; Harned & Linehan, 2008); and schizophrenia (Chien & Thompson, 2014; Goodman & Calderon, 2012).

In addition to their efficacy in supplementing the treatment of physiological and psychological challenges, mindfulness practices have also been found to be of benefit cognitively (Hasenkamp & Barsalou, 2012; Simon & Engström, 2015). Mindfulness practice has been found to promote attention and memory, for example, the benefits of which seem to remain with practitioners even when they are not in a meditative state (Hasenkamp & Barsalou, 2012; Simon & Engström, 2015). In addition, meditation has been found to possibly offset age-related cognitive decline (Gard, Hölzel & Lazar, 2014).

While the mechanisms through which mindfulness practices' efficacy functions are complex, and outside the scope of this paper, it warrants mentioning that Langer and Moldoveanu (2000), who reviewed theoretical perceptions of mindfulness in the

health and educational fields, postulated that mindfulness stimulates differentiation in psychological experiences, which potentially results in four possible consequences: increased sensitivity to one's surroundings; greater openness to new information and experiences; the formation of novel perceptive constructs; and an enhanced capacity for multiple approaches in problem-solving. Knitters, too, often report heightened openness to new challenges, altered perceptions, and perceived improvements in their problem-solving abilities (Collier, 2011; Corkhill, 2014; Riley, et al., 2013).

The Collier (2011) and Riley, et al. (2013) studies, among others discussed in previous chapters, demonstrated that handcrafters believe their practice to be meditative in nature. While it would be premature to infer that because knitting shares qualities with mindfulness practices like meditation, it provides the same psychological benefits. However, as the presented research suggests, knitting is a meditative and grounding practice, and knitters themselves perceive a connection between the meditative qualities of the practice and its psychological benefits. This suggests that the mindful nature of knitting, specifically, warrants further investigation as a psychologically beneficial task.

Cognitive Functioning

As the previous chapter explored in some detail, knitting, as a complex, bilateral, manual task, can be inferred to have significant potential neurological, and thus, cognitive benefits. Current research attests to the general finding that maintaining a cognitively active lifestyle helps to stave off cognitive decline in old age, and may protect against dementia (Geda, et al., 2011; Valenzuela, et al., 2011). Additionally,

research has shown that manual activities, such as knitting, help to maintain spatial abilities well in to old age (Bailey & Sims, 2014).

Textile arts are, by nature, cognitively demanding. Even the seemingly simple manual tasks involved in the basic skills of knitting are challenging to learn and master; taking on a hand craft involves a life-long commitment to experimentation and learning. Knitting patterns are highly symbolic and rich in abstraction, making them intellectually onerous to read and decipher. Knitting is replete with mathematical algorithms that knitters must often discover and learn through the process of pattern adaptation. In every project, there are potentially infinite decisions that must be made in order to bring the artefact together in the desired way, and there are countless adaptations that must be made along the way. The knitter's mind must be highly attuned, while simultaneously relaxed; their thinking must be ordered, linear, and rational, while at the same time open, flexible, and creative; the knitter possesses myriad skills and techniques, yet knows s/he always has more to learn. It is no wonder that knitters associate their craft with cognitive benefits (Collier, 2011; Riley et al., 2013; Corkhill et al., 2014; Pöllänen, 2015).

Beyond the potential neurological benefits of knitting explored in chapter one, knitters often report that they feel that knitting is good for their cognitive functioning in a variety of ways (Collier, 2011; Riley et al., 2013; Corkhill et al., 2014; Pöllänen, 2015). For example, in the Riley, et al. (2013) survey of over 3500 knitters, respondents reported that knitting helped them to organize their thoughts, and that they felt it improved their memory and their ability to concentrate. Further, participants noted that because the manual task of knitting requires the aforementioned *bare attention*, it

facilitated flow in their thoughts, helped them to think through their problems, and to clear their minds of negative thoughts (Riley, et al., 2013). Knitters in the survey also concluded that knitting had improved their mathematical competency, their ability to plan and organize, their visual/spatial awareness, and their problem-solving abilities, all skills that they felt had translated from their knitting practice in to the greater sphere of their lives (Riley et al., 2013).

In another large survey, textile-makers reported similar cognitive benefits (Collier, 2011). Women in this study reported that handcrafting was intellectually stimulating, and provided them with a cognitive outlet (Collier, 2011). Respondents indicated that handcrafting is an activity in which they could feel both skilled, and simultaneously challenged, which consistently held their interest, improved their concentration, and challenged their memory and problem-solving skills (Collier, 2011).

In addition, a review of the written narratives of 59 textile makers revealed that, in addition to the aforementioned benefits, many handcrafters felt that the part of the cognitive challenge of textile arts was the infinite number of skills to be learned and mastered (Pöllänen, 2015). The narratives also demonstrated the extent to which the respondents felt their craft contributed to their personal reflection, and consequent self-knowledge (Pöllänen, 2015). In another study, a series of interviews conducted with knitters and crocheters also demonstrated that women felt their craft helped them to know themselves more deeply (Kenning, 2015).

While there is little to no empirical research specifically about the cognitive benefits of knitting, its similarity to other cognitively complex practices lends itself to the interpretation that it may be a particular case of a general class of psychomotor

activities whose psychological benefits are already known, as suggested by the research presented not only in the present chapter, but also in chapter two. The benefits that handcrafters in the aforementioned studies perceive align well with existing research in to the cognitive benefits of other similar artistic, and visually, cognitively and manually stimulating practices, and while the knitting studies (Collier, 2011; Corkhill, 2014; Riley, et al., 2013) lack empirical validity and generalizability, systematizing the perceived effects into a survey validates the generalized perception, in knitting communities, at least. From this provocative starting point, controlled, double-blind clinical trials would be necessary to find unequivocal evidence of efficacy of knitting in benefitting its practitioners cognitively.

Affective Regulation, Anxiety, and Depression

Above all other benefits that knitters seem to perceive in their practice, affective regulation, affective regulation, including such things as improvement of mood and feeling rejuvenated, is the most consistently reported (Collier, 2011; Vercillo, 2012; Riley et al., 2013; Corkhill et al., 2014; Pöllänen, 2015). Through the pleasure and comfort of the craft, practitioners not only report feeling good, but also that this sense of well-being helps them to cope with anxiety and depression (Collier, 2011; Vercillo, 2012; Riley et al., 2013; Corkhill et al., 2014). Vercillo (2012) asserts that, through her struggles with severe depression, the simple pleasure she gained from crocheting was, at times, the only positive thing she felt she had in her life. Almost all of the other narratives in the book also attest to the benefits that crocheting had on mood and sense of well-being while participants were coping with their respective conditions (Vercillo, 2012). Many attributed this improvement in mood to having a distraction from their problems, while

others felt that crafting gave them a sense of identity and/or purpose (Vercillo, 2012). Other narratives suggested that the simple pleasure of the beauty and texture of the yarn brought them a sense of comfort and happiness (Vercillo, 2012).

Similarly, respondents in the Collier (2011) study consistently reported that “fiber [sic] making successfully changed their negative mood, rejuvenated them, and allowed them to be absorbed in an activity.” (p. 110). Collier (2011) hypothesizes that this change in mood occurs as knitters are oriented away from negative thoughts and feelings toward more positive ones, and that the aesthetics and contemplative space provided by knitting helps practitioners to cope with distressing emotions. What’s more, the results of this study suggested that textile-makers who were most deeply engaged in the tasks of their craft experienced a greater sense of rejuvenation and mood repair than those who were more superficially engaged (Collier, 2011). The researcher attributes this difference to *flow* (Csikszentmihalyi, 1997, 2008), indicating that the deeper the state of flow the crafters experienced, the greater their sense of control, expression, and creativity (Collier, 2011). According to flow theory, activities that promote flow help the practitioner to feel energized, and to find that activity intrinsically rewarding, leading to a sense of purpose and well-being (Collins, et al., 2009; Csikszentmihalyi, 1997, 2008), which is supported by the finding that deeply engaged textile-makers in this study experienced significant improvement in mood.

Another survey of over 400 textile-makers, which examined rejuvenation and mood repair in handcrafters, indicated that participants experienced moderate to high levels of rejuvenation and mood repair after participating in their craft, and that flow was a key factor in amplifying these benefits (Collier & Von Károlyi, 2014). Results of the

study suggested that there is a strong link between flow and the quality and amount of rejuvenation and mood repair experienced, and that crafters with higher skill levels were more likely to enter the state of flow when engaging in textile-making activities (Collier & Von Károlyi, 2014). The findings of the study suggest that deep absorption in the tasks of crafting allowed participants to be deeply engaged in, and aroused by, their practice, a state that is associated with personal satisfaction, positive mood, and overall happiness (Collier & Von Károlyi, 2014).

Riley et al.'s, (2013) study also showed that knitters often knit in order to repair difficult moods, and that improved mood was a natural consequence of knitting. Respondents consistently reported that their primary reasons for knitting include relaxation and relief from stress (Riley, et al., 2013). They reported that they found the rhythmic nature of knitting calming, and that this feeling of relaxation led to stress relief (Riley et al., 2013). Further, those surveyed indicated that “knitting helped them to cope with ‘emotional control’ and ‘approach problems more calmly’.” (Riley, et al., 2013, p. 55) In addition to serving as a way to “unwind” for most respondents, those with self-reported anxiety disorders also indicated that knitting helped them to cope with stressful situations by giving them something to focus on, and helping them to feel relaxed (Riley, et al., 2013). Also, participants experiencing both anxiety disorders and depression suggested that knitting gave them a mental “break” from their symptoms, and many described the practice as “therapy” or “therapeutic” (Riley, et al., 2013, p. 53).

Further to helping respondents to relax, the Riley, et al. (2013) study demonstrated that knitters often feel happier after they knit; in fact, over 80% of respondents rated their mood as being happier after knitting than before, and less than

1% indicated that they continued to have low mood after knitting. In effect, regardless of their starting mood, the vast majority of respondents indicated that it improved after knitting. In addition, the survey results clearly indicated that people who engaged in textile arts in a social, group setting, were significantly more likely to experience benefit to their mood, and to feel better about themselves. This social aspect of knitting will be discussed in greater depth in the next chapter. Interestingly, the main reason respondents gave for their apparent change in mood, regardless of whether they were in a group or solitary setting, was not that knitting *changed* their mood, but rather that it helped them to cope with it (Riley, et al., 2013).

A study of needlecrafts, specifically in the context of management of depression found that knitting and other textile arts were perceived to help mediate the symptoms of depression through mental and emotional relaxation, physical relaxation, self-esteem building, enhancement of perceived life-control, increase in activity and energizing thoughts, practical adaptability, and time management (Reynolds, 2000). More recently, Duffy (2007) created a knitting programme for women in substance-abuse recovery, and found that the programme's success was based in similar perceptions in the group. Duffy (2007) suggests that knitting provides an alternative means through which those who have historically turned to drugs or alcohol for affect management, can regulate their emotionality. She proposes that knitting is "a grounding skill that helps clients stay in the present and modulate affect by allowing time to think before reacting." (Duffy, 2007, p. 74). She further indicates that, because knitting is calming and relaxing, it creates a group atmosphere that promotes conversation, sharing, and time for processing (Duffy, 2007). Similar to the Riley, et al. (2013) study, Duffy (2007) suggests

that knitting provides a place where difficult emotions are not avoided, but rather managed and coped with. In addition, Duffy (2007) reflects that knitting seems to benefit the group setting, and facilitates feelings of support and empathy, and by its nature teaches socialization skills to a demographic of women who often toil in building healthy relationships.

In addition to affect regulation, the knitting programme also seems to help participants to deal with other depressive symptoms, such as feelings of hopelessness, low self-esteem, and disconnectedness (Duffy, 2007). While many people experiencing depression and problematic relationships with drugs or alcohol may feel a loss of hope, a knitting programme like this may serve as a metaphorical lesson in perseverance. Duffy (2007) indicates that participants in the group often initially met the task of knitting with doubt in their own ability to master its techniques. However, as clients became more familiar and skilled with knitting, they came to realize that small successes such as these are translatable to real life, thus instilling a sense of hope in their ability to persevere, and to make meaningful changes in their lives (Duffy, 2007). To extend the metaphor, in knitting, mistakes are inevitable, and almost always repairable; sometimes that process is simple; sometimes it requires great time, care, and sacrifice to correct; sometimes the flaws are simply part of the beauty of an artifact that is the physical manifestation of a deeply committed process. There is a life lesson in this; some mistakes are worth fixing, and some are not. Some are easy to correct, and some are not. We have the choice to wear our mistakes proudly as the scars of a learning process, or to conceal them on the inside of ourselves, where only we know that they exist as a personal reminder of challenge and experience.

A small study of women recovering from anorexia nervosa (AN) showed promising results in the use of knitting as a way to help clients to deal with anxious preoccupations with food, weight, and appearance (Clave-Brule, et al., 2009). As some of the research in chapter one suggested, visuospatial tasks such as knitting can reduce some of the emotional impact of distressing thoughts and images. Participants in this study indicated that knitting helped to lessen the intensity of their distressing thoughts, that it had a calming effect, and that it reduced their anxiety and improved their mood by giving them a sense of accomplishment and pride (Clave-Brule, et al., 2009). While the study was small, the results again provide a compelling base from which to conduct further research in to knitting's efficacy as an adjunctive treatment.

Ultimately, regardless of the quality and/or size of the studies explored here, the fact that the textile-makers themselves consistently seem to perceive their craft as beneficial to their mood, and in management of their depression and anxiety, is evidence enough that this highly accessible, portable, and commonplace activity is contributing to their well-being. The mechanism by which these shifts are achieved is unclear; however, it seems to related to engagement in psychomotor complexity, positive planning, intentionality, and the regulating effects of repetition. The studies and narratives explored in this chapter speak to the magic of what we have culturally come to see as commonplace. These testaments show that domestic arts are, and have always been, part of the medium through which people transform themselves; that even the mundane tasks of daily life are powerfully meaningful activities that give us a sense of purpose, identity, satisfaction, and meaning.

Chapter Three - The Benefits of Knitting as a Social Activity

Introduction

Crafting groups have existed as long as the crafts themselves, and they have historically been an integral thread in the fabric of communities' social lives. From the traditional buzz of quilting bees to the productive support of artisan guilds to the modern social activism of *yarn bombing*, handcrafters have come together in groups to share the joy and burden of work, to teach and to learn, and to seek comfort in the shelter of others. As the focus of knitting practice in the western world has shifted away from the spheres of necessity and work toward those of enjoyment and leisure, knitting groups continue to serve as an important aspect of the craft for many knitters, providing a social forum in which they can share, learn, and connect meaningfully with others. As suggested in chapter two, the common activity of knitting provides a light and positively charged foundation for conversation, while the contemplative rhythms of the craft promote comfort and profound reflection, leading to a tendency for deep interpersonal engagement and connection.

Humans almost inevitably belong to social groups; by and large, we are raised in families and live in communities. We seem to naturally gravitate toward group membership with our peers, and the majority of us work, learn, play, and compete in social groups. Collier (2012) suggests that “we have an underlying need to affiliate, to have social interactions, and to share interests, values, and kinship.” (p. 173). In fact, studies show that supportive social groups are essential to our well-being, and that they contribute significantly to recovery from mental illness (Arai & Pedlar, 2003; Castelein, et al., 2015; Yalom, 2005). Social groups facilitate reciprocal learning, the development

of communication skills, exploration and personal discovery (Corkhill, et al., 2014). They mitigate social isolation, and encourage participants to express themselves, to be heard and understood, and to feel supported (Castelein, et al., 2015). Engagement in group social activities has also been shown to protect against dementia in later life (Valenzuela, et al., 2012), and animal studies have shown that social activity may reduce nerve pain (Hinze & DeVries, 2012).

More specific to artists' groups, Moon (2016) posits that art-making in groups has therapeutic value, even without the explicit guidance or direction of a psychotherapist, because the processes create a sense of community, are expressions of hope, serve to keep participants present, and facilitate self-transcendence. These benefits of group dynamics are, in fact, central to Yalom's (2005) seminal work on group psychotherapy, wherein he posits that social and therapeutic groups are essential to our well-being, as they serve as the microcosm through which we learn to interact with the world at large.

Group Therapeutic Factors

Yalom (2005) observes that groups are social microcosms, and that consequently, the exploration and change that we make in our social (and therapeutic) groups are often transferrable to the greater tapestry of our lives.

A freely interactive group, with few structural restrictions, will, in time, develop into a social microcosm of the participant members. Given enough time, group members will begin to be themselves: they will interact with the group members as they interact with others in their social sphere, will create in the group the same interpersonal universe they have always inhabited. (Yalom, 2005, pp. 31-32).

In therapeutic groups, it is within this microcosm of our interpersonal universe that we can begin to witness our own behaviour, and its impact on others, in small, concentrated ways. This awareness, in turn, can eventually lead to meaningful personal transformation (Yalom, 2005). According to Yalom (2005), there are several therapeutic factors common to both social and therapeutic groups that can influence personal change and facilitate healing, including:

- *Hope*: group membership instills a sense of optimism in its participants, which creates positive expectations, not only of the group experience, but also in seeing how the group has positively affected its other members
- *Universality*: group members can see that the challenges and triumphs they encounter in life are common to other members, and that they are neither alone in the experience of their struggles, nor in the celebration of their successes
- *Imparting of information*: group members give and receive information through didactic instruction, advice and guidance, suggestions, as well as what they acquire through their own observations and inferences
- *Altruism*: participants in groups are necessarily both givers and receivers of support. The altruism of group membership enables members to “gain through giving...profiting from something intrinsic to the act of giving,” (p. 13) which may also contribute to their sense of existential meaning
- *Socialization*: participation in social groups facilitates the development of social skills and techniques, promotes tolerance and understanding, and helps to develop empathy in its members

- *Interpersonal learning*: because the social group is a microcosm of universal social spheres, these group experiences allow participants to safely attempt new approaches to old problems, to have *corrective emotional experiences* wherein they can experiment with new approaches to interpersonal relationships in an emotionally supportive context
- *Group cohesiveness*: group members feel included, accepted, valued, and secure in their connections with other members of the group; personal self-esteem is altered as members experience acceptance and empathy from their peers
- *Existentialism*: engagement in social groups promotes understanding and acceptance of life's existential factors; that we are part of a greater whole; that life goes on despite our pain and joy; that the meaning we get from our lives is necessarily the meaning we make for ourselves

While Yalom's (2005) work focuses on these factors more specifically in the context of *therapeutic* groups, he does recognize that many of the factors are an inherent part of every social group process, which is largely why, he argues, therapeutic groups can be so effective. The following sections will explore several common themes in the current research on the benefits of knitting as a social activity, largely through the lens of Yalom's (2005) therapeutic factors.

The Benefits of Knitting as a Social Activity

Social inclusion, belonging, and empowerment. Regardless of whether knitters knit together or alone, the very fact of being a knitter creates an unspoken membership in a social group (Collier, 2012). As discussed in chapter two, many

knitters have reported that the social aspect of knitting is a central motivation for, and benefit of, participating in the craft (Collier, 2011; Collier & Károlyi, 2014; Corkhill, et al., 2014; Kenning, 2015; Riley, et al., 2013). Studies have illustrated that the vast majority of self-identified textile makers belong to crafting groups, organizations, guilds, online communities, and the like (Collier, 2011; Collier, 2012; Collier & Károlyi, 2014; Corkhill, et al., 2014; Kenning, 2015; Riley, et al., 2013), and that some crafters feel that, because crafting groups are inclusive by their very nature, they can serve as a great social equalizer (Corkhill, et al., 2014; Duffy, 2007; Wills, 2007).

Knitting circles across America routinely bring together young and old people, blacks, whites, Asians, Hispanics, those who speak English and those who do not, conservatives and liberals, men and women, all kinds of folks who, if it weren't for the knitting, might just assume to avoid each other. Because they know from the start that they share a consuming passion, they are often able to look beyond their differences and think about what else they might have in common. (Wills, 2007, p. 76)

Because of the common interest in the craft, knitting groups provide opportunities for participants to expand and diversify their social groups, as they work side-by-side with people whom their more typical social contexts would not have afforded them the opportunity to know (Corkhill, 2014). Within this social diversity, knitting serves to equalize disadvantaged and advantaged participants, as “those disadvantaged in life may become teachers in the knitting group, so often roles are reversed.” (Corkhill, et al., 2014, p. 42).

Riley, et al.'s (2013) survey, described in chapter two, demonstrated that knitters who crafted in a group setting were significantly more likely to feel happy, satisfied, and fulfilled than those who knit alone. The study results further suggested that knitting with others provided a sense of confidence and a feeling of belonging, and that the vast majority of participants reported that they had made friends through knitting (Riley, et al., 2013). "Knitting provided a vehicle, through belonging to real time or virtual groups, for improving social contact and communication and for making friends...knitting's social aspects enhance its therapeutic potential." (Riley, et al., 2013, p. 56). Several therapeutic factors are evident in these results, despite the fact that the objectives of the groups described were social, rather than curative, in nature. For example, the sense of confidence and feeling of belonging that respondents reported in the survey speak to Yalom's (2005) assertion that group membership inherently instills *hope* in participants by creating positive expectations, as well as a sense of inclusion, acceptance, and value through the *group's cohesiveness*.

Another study consisting of qualitative, unstructured interviews with a small sample of self-selected textile makers also demonstrated that members of non-therapeutic crafting groups tremendously valued the notion of belonging to a "community of makers", and also that the teaching and learning of new skills was central to their feeling of worth and success in the group (Kenning, 2015). In addition, "makers expressed joy in recalling the seemingly poor skill level or design errors in their early works, and took pride in recognizing their current skill level and their personal development." (Kenning, 2015, p. 61). The findings of this study again reflect some of the ways in which Yalom's (2005) therapeutic factors influence personal transformation,

even in non-therapeutic groups. The *universality* (Yalom, 2005) of belonging to a “community of makers”, for example, whose challenges, growth, and triumphs parallel one’s own, is an apparent perceived benefit (Kenning, 2015). In addition, the crafters placed great importance on the *imparting of information* and *altruism* in their groups, as evidenced in the focus on reciprocal teaching and learning of new skills in the group setting (Kenning, 2015). As these examples suggest, social crafting groups seem to be perceived by their members as inherently therapeutic, a perception that aligns well with Yalom’s (2005) evidence-based assertions in the field of group psychotherapy.

Current research in to the incorporation of crafting processes in group psychotherapy also indicate participants’ perception that knitting’s social aspects are beneficial. Based on her observations of a therapeutic knitting group in a drug and alcohol recovery programme (as described in chapter two), Duffy (2007) suggests that the social inclusion of the group serves several beneficial purposes, all of which align with Yalom’s (2005) therapeutic factors. First of all, she observes that knitting provided the group with something collaborative to focus on in the present moment, besides the recovery process (Duffy, 2007). She argues that the common task of knitting gave participants a focal point and conversation piece that was unthreatening, thus breaking the ice and facilitating *universality*, and therefore *group cohesiveness* (Yalom, 2005) by creating a sense of commonality, safety, and community in the group (Duffy, 2007).

Duffy (2007) further argues that “knitting facilitates conversation as the clients admire and support each other in their projects. As the women with higher levels of skill share their knowledge with the new knitters, they begin to realize they have something to offer others.” (Duffy, 2007, p. 76). The clients’ support of one another again

demonstrates *group cohesiveness*, and also *altruism* (Yalom, 2005), in that each community member is accepted and valued, and that there is a reciprocal exchange of social and emotional support, and a satisfaction in the selflessness of doing for others. In addition, the sharing and teaching of skills demonstrates the *imparting of information, socialization, interpersonal learning*, and the *instillation of hope* (Yalom, 2005); while more skilled knitters teach newcomers, they learn social skills like patience and understanding that develop their empathy toward others and toward themselves; through this process, they find value and confidence in what they have to offer the group, and thus world.

In addition, Duffy (2007) observes that, in this knitting circle, people of perceived *lower* social status were able to occupy an entirely different social position in the context of the group. For example, a client who was a very skilled knitter, but who was also a high-school dropout, and recovering from substance abuse issues, was able to mentor others in the group, including the therapist, who traditionally would be considered to have greater status and power (Duffy, 2007). Duffy (2007) proposes that this potential for social mobility within the group serves to empower its members with support and measurable success, giving them confidence and skills that could potentially translate to life outside the group. Again, this empowerment speaks to Yalom's (2005) *instillation of hope*, by creating positive witnessing and positive expectations in the group, and *interpersonal learning*, wherein the client's value within the social microcosm of the group affords her the belief that there is potential for similar growth in the outside world.

Another descriptive study that examined the parallel process of empowerment between a social-work intern and her clients, a group of homeless teen-aged mothers,

through a therapeutic knitting group, had similar findings (Rebmann, 2006). Both the intern and the clients reported feeling empowered by the group process, as the knitting task gave them a common practice through which they could support and feel supported (*altruism* and *group cohesiveness*); it provided a platform from which they could safely take risks in a social setting (*socialization* and *interpersonal learning*); it granted them opportunities to experience successes (*instillation of hope*); it created a forum in which they could reinforce collaboration and social ties, and thus a sense of inclusion and community (*group cohesiveness*); and it allowed them a context in which they could develop a sense of mastery and control, and consequently, a feeling of empowerment (*instillation of hope*) (Rebmann, 2006; Yalom, 2005). Like the Duffy (2007) article, this study suggests that the social aspect of the group, in tandem with the task of knitting, served to socially equalize and empower the group as a whole. Much like the experiences of participants in non-therapeutic groups, members of groups with a curative focus also seem to find the incorporation of crafting in the milieu to facilitate the group process, and to contribute to its benefits.

Construction of identity. In addition to the feelings of belonging and empowerment that participation in crafting groups, whether social or therapeutic, may provide, research suggests that, for many textile makers, crafting in groups serves as keystone in the construction of their identity (Collier, 2011; Collier, 2012; Myzelev, 2009; Pöllänen, 2015; Riley, 2008). A longitudinal, ethnographic study of 21 handcrafters in a textile artists' guild, found that its members felt that "a sense of self is enhanced by becoming and being a textile-maker through creative doing, and a collective sense of self develops from belonging to a guild." (Riley, 2008, p. 63). Participants in the study

indicated that textile-making augmented their sense of self because it satisfied an intrinsic need to create, which for them was tied to their both their respective and collective backgrounds, and thus gave them a sense of continuity with the past (Riley, 2008). In addition, part of their identity formation came from their passion for the process of textile-making, and the spiritual commitment that grew out of that process (Riley, 2008). Their guild membership contributed to the members' collective sense of self through the sharing of occupation, and working together as part of a group, which all of the participants agreed enhanced their feelings of belonging and sense of well-being (Riley, 2008).

Similarly, Collier's (2011) study, as described in chapter two, also found that textile-making contributed to the construction of participants' identities. Respondents cited reasons for their participation in textile arts that closely relate to the formation of identity, including: continuity with the past; textile arts as an historical marker; inner spiritual experience; need to create; and self-expression (Collier, 2011). In fact, a significant number of participants stated that "it is who I am; part of my identity." (Collier, 2011, p. 107). Collier (2012) further observed that the majority of handcrafters belong to textile-making groups, including social groups, guilds, virtual networks, and professional groups, and that women who belonged to such groups were more curious, had tried a wider variety of textile arts, had superior skills, and created more frequently than those who did not participate in groups. She noted that these groups contribute to women's identity formation because they "provide handcrafters with a forum for individual self-expression, which in turn affirms women's uniqueness and individuality." (Collier, 2012, p. 175). Her observations seem to suggest that, within the context of the group, and

through the act of creating, textile-makers form aspects of their identity by connecting with the legacy of the past, and expressing and seeing themselves uniquely in a relative way to the other members of the group.

Pöllänen (2015) similarly observed, in her study of the written narratives of 59 female textile makers, that participants felt that group participation in textile-making was central to their identity formation. This study was conducted in Finland, where there is a rich historical tradition of knitting (Pöllänen, 2015). The narratives consistently demonstrated that the women felt that knitting together in groups allowed for the transmission of traditional knowledge and skills across generations, and that their personal and cultural identities were shaped by both the inheritance and continuance of crafting traditions (Pöllänen, 2015). Further, respondents indicated that they felt that creating traditional cultural artefacts helped them to connect to their cultural heritage, and served to protect their cultural identity (Pöllänen, 2015).

Again, Yalom's (2005) therapeutic group factors are apparent and crucial in the personal development of identity that occurs in crafting groups. The construction of identity in these group contexts demonstrates *group cohesiveness* (Yalom, 2005), for example, wherein members negotiate the collective values of the community, and merge those values with their own; wherein they feel valued and accepted for who they are, allowing space for experimentation with personal expression as it relates to history, tradition, spirituality, and the like. Further, Yalom's (2005) *existential* group factors are palpable in these groups' facilitation of identity formation, wherein participants assimilate their collaborative learning, personal expression, connection to tradition,

spirituality, and the like, in to an understanding of how to simply exist as a unique, but essential thread in a tapestry that is larger than oneself.

Social activism. Frankl (2006) observed that true self-actualization comes only as a consequence of self-transcendence, a process that the *existential* (Yalom, 2005) group factor embodies. Moon (2016) contends that the process of group art-making is naturally self-transcendent, in that

artistic activities provide bridges from isolation to life with others. The visual arts serve as a transitional way to interact with other human beings in a context of self-expression and connection to others that can change clients' self images, build confidence, and facilitate becoming involved in a wider circle of human relationships. Art making engages clients in the world outside themselves. In art therapy groups, this transcendent absorption is a public act. (p. 155).

Through the *altruistic* and *existential* (Yalom, 2005) aspects of group belonging, participants engage with others in service of the process of art-making, and consequently, often in participation in a greater social context that transcends their own motivations, whether intentionally or not.

Myzelev (2015) observes that “knitting constitutes an ideal case study for redefining the role of craft in contemporary popular culture...related to the past and conceived nostalgically through connection to our parents' and grandparents' domestic activity, knitting is rapidly being revitalized and repackaged...as hip and fun.” (p. 149). Myzelev (2015) presents knitting as a “communal, activist practice...[that] provides a conceptual link and helps redefine the historical and contemporary significance of domesticity in society.” (p. 149). In this view, Myzelev (2015) conceives of knitting

groups as not only contributing to the formation of personal identity, but also of social, collective identity that connects our history to its evolution in to the contemporary sphere.

The modern phenomenon of bringing the domesticity of craft, which has traditionally existed predominantly in the realm of more private, intimate spaces, such as the home or the church basement, out in to visible, public spaces like pubs and subways, has challenged the ways in which we construct notions of gender, domesticity, economy, and social hierarchy (Myzelev, 2015). In this way, the so-called *craft revolution* is simultaneously subversive and inviting (Myzelev, 2015). *Craftivism* is dissident, in that it encourages us to question and subvert traditional social and gender roles (Myzelev, 2015), and that DIY (do-it-yourself) movements' tendency toward sustainability practices naturally undermine capitalist notions of consumerism (Garber, 2013). On the other hand, the *craft revolution*, unlike other subversive social movements, is approachable and inviting, in the sense that crafting is by its very nature an accessible, communal, nurturing, and inclusive practice (Myzelev, 2015).

While not all knitting groups intentionally purpose themselves with social activism, the very act of knitting together in public has become a kind of social statement, a celebration of the domestic as empowering, and by proxy, a challenge against social stratification, consumerism, gendered identity, and the like. As such, participants in crafting groups have the opportunity not only to empower themselves individually, but also to transcend the self and contribute altruistically to their community at large, whether through the simple act of knitting in public, or through mindful participation in a *craftivism* group, with the intention of inciting social change.

The voices and suggestions of individuals involved are part of many activist craft organizations, meaning that there isn't an imposed hierarchical leadership.

Activist craft is “counter to dominant notions of the placid individual crafter

Crafting here is a social movement and a form of direct action, whose current work is prefiguring a world to come” (Bratich & Brush, 2007, p. 22). This doesn't mean that an individual never works alone, but that s/he understands her/his work as contributing to and building the values of participatory democracy.

(Garber, 2013, p. 55).

While knitting groups apparently continue to serve their more traditional functions as safe, communal spaces where crafters can come together to socialize and skill-share, the modern *craft revolution* has added a dimension of social activism that further facilitates participants' ability to become actualized and empowered through self-transcendence. The natural tendency of social groups to foster such therapeutic factors as those described by Yalom (2005) makes them the ideal forum wherein participants can not only learn and develop their crafting skills, but also where they may build positive expectations and hope; connect meaningfully with others, and share common experiences; experience reciprocity and mobility in social relationships; feel included, accepted and valued as a piece of a larger whole; and find meaning in eclipsing their own sense of self in exchange for their place in the greater fabric of their communities.

Conclusion

Summary

The present paper sought to explore how knitting, and similar crafts, might serve as a vehicle for personal transformation, and consequently, what application it might have in psychotherapeutic processes. Three foundational studies demonstrated, anecdotally and/or descriptively, that the existing knitting community perceives the craft as beneficial to well-being in a variety of ways, including cognitively, emotionally, psychologically, and socially (Collier, 2011; Riley, et al., 2013; Vercillo, 2012). Handcrafters in these studies reasoned that several aspects of textile making contribute to the ways in which it facilitates well-being, including: cognitive challenge in the skill development and pattern complexity of the craft; an intrinsic pleasure derived from the aesthetics, altruism, and occupation related to crafting, which provides a sense of purpose and meaning; a connection to historical and cultural roots that serves to strengthen a sense of identity and continuity with self; the perception that engaging in textile-making is meditative, and promotes a sense of flow; and an inevitable feeling of belonging and connection with others, due to the common interest in, and the communal nature of, the craft (Collier, 2011; Riley, et al., 2013; Vercillo, 2012).

While the mechanisms by which knitting contributes to well-being remain unsubstantiated, from an empirical perspective, inferences based on existing, valid and generalizable research seem to point to its psychomotor complexity, the regulating effects of its rhythm and repetition, its proclivity to positive planning, its intentionality, and its socially supportive, communal nature, as the inherent therapeutic factors that give it potential as a tool for psychological healing and transformation.

Physiology. From a physiological perspective, the psychomotor complexity of knitting is cognitively stimulating in positive ways that facilitate functional and structural changes in the brain (Corkhill, 2014; Doidge, 2015; Malchiodi, 2012). The bilateral, manually complex action of artistic tasks such as knitting, combined with their inherent need for planning, pattern recognition, sensory stimulation, rhythmic coordination, visuospatial orientation, and creativity, contribute to the construction of new neuronal pathways in the brain, an aspect of neuroplasticity, which has been shown to improve cognitive functioning and memory (Doidge, 2015); to protect against dementia and psychomotor decline (Doidge, 2015; Geda, et al., 2012; Valenzuela, et al., 2012); to repair deficits in the flexibility and structure of the cortices of people experiencing chronic mood disorders (Lane, et al., 2010, Lane et al., 2013; Piguet, et al., 2016; Valenzuela, et al., 2012); and to stimulate positive chemical changes in the brain, potentially improving the symptoms of a wide variety of mental health concerns (Doidge, 2015; Linden, 2006; Malchiodi, 2012).

Psychology. From a psychological perspective, the positive planning and intentionality of knitting seems to contribute to psycho-social well-being. Knitters perceive their craft to be meditative, to be cognitively actualizing, and to be instrumental in their affective regulation (Collier, 2011; Riley, et al., 2013; Vercillo, 2012). Mindfulness practices have been found to be beneficial in treating a variety of physiological and psychological conditions (Bowen, et al., 2014; Coffey, et al., 2010; Follette, 2006; Gonzalez, et al., 2016; Kabat-Zinn, 2012; Leung, et al., 2014; Singh, et al., 2012), and have to improve cognitive functioning (Hasenkamp & Barsalou, 2012; Simon & Engström, 2015). In light of current research and practice of mindfulness in

such psychotherapeutic applications as mindfulness-based cognitive therapy (MBCT) and dialectical behavioural therapy (DBT), knitting's potential as a type of meditative exercise warrants experimental trials that examine the craft's potential benefits specifically.

Further, engagement in cognitively challenging tasks has shown not only neurological benefits, but also psychological ones. Anecdotal evidence suggests that knitters perceive their craft to improve organization, problem-solving skills, memory, and concentration (Collier, 2011; Riley et al., 2013; Corkhill et al., 2014). Knitters also reported that knitting requires ongoing cognitive engagement in order to continuously improve skills, which serves as a positive mental activity and challenge toward self-actualization (Collier, 2011; Riley et al., 2013; Corkhill et al., 2014; Pöllänen, 2015). In fact, empirical studies have shown that creative, cognitively stimulating activities similar to knitting improve concentration and memory, and protect against cognitive decline and dementia in old age (Geda, et al., 2011; Valenzuela, et al., 2011). While many of the perceived benefits of knitting remain unsubstantiated, because the craft is similar to other cognitively complex practices, it seems to fall in to a particular class of psychomotor activities whose psychological benefits have been verified by empirical research. If this is so, again, clinical trials could substantiate these perceived benefits, and lead to the construction of an evidence-based model of psychotherapy that includes textile-making as a central component.

Sociology. The supportive, communal nature of knitting demonstrates several of the widely accepted psychotherapeutic group factors proposed by Yalom (2005), because groups naturally tend toward becoming microcosms of larger social structures,

wherein social skills and empathy can safely be developed, authentic attachments can be made, identity can be formed in relativity to others, and knowledge can be both gained and shared. Knitting is, by nature, socially inclusive, and promotes a sense of belonging and empowerment in its group members; notably, the majority of textile-makers belong to a crafting-related social group (Corkhill, 2014; Duffy, 2007).

Crafters who work together in groups report greater improvements in mood than those who craft alone, and through their connections with others, they describe healthy attachments, a sense of altruism in skill- and knowledge-sharing and charitable giving, and a feeling of purpose in community (Collier, 2012; Corkhill, 2014; Riley, et. al., 2013). Knitters apparently deepen their sense of self and identity from belonging to crafting groups (Collier, 2012; Myzelev, 2009; Pöllänen, 2015; Riley, 2008), from which they glean profound personal meaning that promotes contentment and self-transcendence (Moon, 2016; Yalom, 2005). This actualization, it seems, helps many knitters to feel empowered, through participation in a greater social context that transcends their personal ambitions, toward social awareness and activism, whether through the quiet rebellion of bringing domestic acts in to public spaces, or through more overt practices of yarn bombing (Garber, 2013; Myzelev, 2015).

Again, an existing body of research affirms the importance of belonging to social groups for mental well-being (Arai & Pedlar, 2003; Castelein, et al., 2015; Moon, 2016; Yalom, 2005); engaging in artistic practices in a group setting is therapeutic in that it creates community, instills hope, grounds participants in the present, and encourages self-transcendence (Moon, 2016), which, from the existential perspective, is the key to enduring satisfaction in life (Frankl, 2006; Yalom, 2005).

Discussion

While the present exploration has provided largely anecdotal and inferred evidence for the efficacy of knitting as an adjunctive tool in psychotherapy, there seems to be a good body of research that affirms that knitters, at least, describe the craft as creating a state of flow. Existing research has shown that engaging in creative activities such as textile-making that create a flow state is intrinsically rewarding and intrinsically motivating (Csikszentmihalyi, 1997, 2008). Flow experiences are intensely enjoyable, producing a deep sense of satisfaction through personal development and growth (Csikszentmihalyi, 1997, 2008). The state of flow is so deeply satisfying, in fact, that we will strive to remain (or regain) that state by seeking out ever-increasing challenges in the engaging task, the result of which is an improvement in skills, which further reinforces satisfaction in said task, and thus the sense of flow (Csikszentmihalyi, 1997, 2008).

We consequently emerge from our flow experiences changed, more skilled, and with feelings of efficacy; these feelings are profoundly rewarding, and thus increase our intrinsic motivation to learn and grow (Csikszentmihalyi, 1997, 2008). Not surprisingly, research has shown that flow activities improve affect, raise self-esteem, and reduce anxiety through their tendency to promote persistence, and its consequent achievement (Nakamura & Csikszentmihalyi, 2014). “The best moments usually occur when a person’s body or mind is stretched to its limits in a voluntary effort to accomplish something difficult and worthwhile. Optimal experience is thus something we make happen.” (Csikszentmihalyi, 1997, p.3). Knitting is such an *optimal experience*, which

has almost unlimited potential for learning and growth, making it an activity with a life-long potential to create flow.

The physiological, psychological and social benefits that knitters derive from their craft further interact to create the perfect storm of existential meaning. The self-actualization that knitters potentially experience can be attributed to so many aspects of the craft: the physical practice of knitting provides a sense of purpose through action; the psychological and social allure of the tasks of knitting are deeply engaging for practitioners, precisely the type of engagement that, from an existential perspective, will bring the kind of life-satisfaction that can only be achieved through altruistic self-transcendence. As social beings, we find so much meaning in the connections we forge with others, and as the nature of our technology and communities changes the ways in which we meet, connect, and interact with others, the comfort and familiarity of a communal activity that aligns us not only through our nostalgia, but also translates to modern interpretation as a socio-political act, transcends the potential barriers to connection that may exist in the modern world.

Recommendations

Knitting is undeniably meaningful to those who do it, and the sense of flow that is evidenced through the craft substantiates some of the benefits that its practitioners perceive. Preliminary anecdotal and descriptive studies provide compelling data to suggest areas for further research. Experimental trials in to the specific physiology of knitting, for example, could answer questions about its meditative qualities and the potential benefits of its manual and cognitive complexity.

More stringent experimental designs that include random sampling and double-blind procedures, and that therefore control for confounding variables, in studies of the effects of knitting on affect, mood disorders, and other psychological conditions, would provide more valid, generalizable information about the potential efficacy of using textile arts as adjunctive modalities in psychotherapy.

While a significant body of research already attests to the benefits of supportive social groups, it would be fruitful to study knitting circles, specifically, in the context of group psychotherapeutic factors, in order to provide a strong, evidence-based foundation from which to build a framework of how knitting in particular could be used therapeutically.

Clinical Facts and Potentials

Despite the limitations of the research presented, it is nonetheless evident that knitting-like tasks have psychomotor, affective, cognitive, and social benefits, all of which have been clearly documented. While the theories of why knitting is beneficial await experimental validation, the qualitative, case-level, and efficacy research presented here all support the application of knitting in clinical practice. Collier (2011), for example, demonstrates how she has used the metaphors and idioms already entrenched in textile arts in therapeutic processes with women. In her book, she describes her work in matching a variety of psychosocial issues with corresponding archetypes, metaphors, myths, and symbols, as expressed by her clients through the process of creating textile materials and objects (Collier, 2011). She also provides a framework from which clinicians may approach incorporating textile arts in to their

therapeutic practice with clients. Her approach stems from a seeming positive psychology model, using art-making as a way to bring about positive mood, pleasure and rejuvenation (Collier, 2011). She argues that this reinforces the continuation of textile-making, which in turn promotes more improvement in mood and coping (Collier, 2011). From this perspective, and based on the evidence presented, textile arts seem particularly indicated in cases of affective dysregulation and anxiety, especially when there is a tendency toward rumination cycles.

As the research presented in the previous chapters demonstrates, knitting facilitates a flow state, which has been shown to improve mood (Collier, 2011; Csikszentmihalyi, 2008; Riley, et al., 2013) and decrease anxiety (Fullager, et al., 2012; Kirchner, 2008; Riley, et al., 2013). For clients experiencing states of anxiety, as well as the affective consequences of depression, for example, the incorporation of textile-making in to mental-hygiene regimens both within and outside of the clinical space could be effective in ameliorating mood by creating flow, thus breaking rumination cycles and creating a space within the self of optimal experience, wherein the client can be free of symptoms, if even temporarily. The cognitive and physical occupation of knitting, coupled with its affordability and portability, make it a highly accessible adjunct to therapy, particularly in cases where traditional talk-based modalities are ineffective.

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