Abstract

Divergent Minds, Convergent Molds: Understanding the Traits and Experiences of Creative

Students in Orthodox Schooling

This study looks at divergent thinking ability, spiritual disposition, and perception of school

support among artistically gifted students in the Orthodox Jewish community. It

hypothesizes that artistically gifted individuals exhibit strengths in both divergent thinking

and a disposition to spirituality, and that in a rule-based culture prioritizing external

behavioral over internal connectedness, such students experience a unique compound of

stressors and may therefore be an at-risk population. The mixed-method study assessed 54

religious young adults with high creative accomplishment in traits of divergent thinking,

creative personality and spiritual disposition along with their perceptions of support for

creativity and spirituality in their Orthodox day school through a battery of multiple short

scales and supplementary questions. Quantitative testing showed positive correlation

between creative accomplishment and divergent thinking and high positive correlation

between creative accomplishment and a spiritual disposition to search for meaning.

Qualitative assessment indicated further evidence of spiritual disposition in artists as well as

a common set of experiences in school. Students perceiving lowest support for creativity

experienced feelings of marginalization, lack of appreciation for strengths, and a likelihood toward giftedness. Environmental support for spirituality was low in multiple areas, including minimal opportunities to speak about G-d, minimal time for introspection, inconsistent role modeling in teachers, and, directly impacting students with strong disposition to search for meaning, weak focus on the meaning behind practices. Trait correlation results can help educators better understand creative students, and school environment findings indicate several areas that would benefit from change to increase positive outcomes for creative students in Orthodoxy.

Divergent Minds, Convergent Molds: Understanding the Traits and Experiences of Creative

Students in Orthodox Schooling

by

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Dedication

To Yitzchak Shonfeld for his indefatigable support of talented, intelligent men and

women searching for meaning and possessing tremendous strengths in divergent thinking

who have not found another space in traditional Orthodoxy that accepts them

unconditionally. Your emulation of Hashem is unparalleled.

To Esther Leah Marchette, Yocheved Polonsky, Henya Storch and Toby Klein

Greenwald, the backbone, inspiration, and motivation of the work of ATARA, a space to

foster growth for creative women in Orthodoxy. Your greatness knows no bounds.

Foremost, to the neshamot lost to us. Malka bat Avraham, and others like her: those who

have taken their own lives because the religious community could not support their

wellbeing enough to keep them with us. And to those lost emotionally, who have left the

religious community in pursuit of validation for their unique disposition or talents.

May data emerging from this work help reverse the tragedy of suffering among those

gifted with sensitivity, spiritual depth, creative potential or artistic talent turning away

from G-d, and rather, establish enough understanding of their needs to support them as

visionaries and future spiritual leaders within Orthodoxy.

In Memory of Malka bas Avraham Shalom, a'h

Excerpts from 'If Only You Cared, When I Was Fragile and Scared,' shared with permission from the mother of a Chassidic young adult, Malka bas Avraham Shalom (Malky Klein), niftar June 24, 2017 at age 21.

This is a story about me, Malky, of blessed memory,

I had so many talents, unique to me;

judging only by academics, I was marked a 'C'.

My pure heart always wanted to share with humanity,

A kind word, a smile, filled with sensitivity,

to make people feel special, and treated with dignity,

That was the person I wanted to be.

I knew I'm not the best scholastically,

but does that negate my creativity?

Does that mean I'm worthless, without quality?

Should that ruin my dreams for all eternity?

Without many details, for years I went on searching,

For a place where I'm appreciated my soul was yearning,

It may be something other than learning,

But at least I'll have a reason to get up every morning,

I was so scared to try new things for fear that I'd fail,

My confidence was shattered, belief in myself very frail,

the special talents I had remained suppressed,

Failure was an area that I didn't want to invest,

I had my special connection with Hashem, I knew He was there,

Even when I didn't understand, my life very unclear,

My parents knew I felt Hashem near,

That I was a thinker, you may not be aware

If only you cared,

when I was fragile and scared,

I wouldn't be broken,

these words would be unspoken.

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Rationale

For more than a decade, I have worked with creative and performing artists in the Orthodox community through the development of programs for arts training and expression, and simultaneously been involved in a social community of defectors from Orthodoxy due to my personal attraction to their depth, intelligence and talent. In the community of artists, I witness what seems to be a disproportionately high volume of artists who choose to abandon Orthodoxy. Reflecting a similar pattern, in the community of defectors, I see what seems to be a noticeably high volume of creatively gifted individuals. Many defectors not only seem to take up music, art, film, or writing following their exit from Orthodoxy, but also exhibit a remarkably high caliber of talent.

Additionally, among ex-Orthodox in particular, I have engaged in profound philosophical conversations, revealing spiritual depth and intelligence among defectors: these individuals do not seem to exhibit character flaws, but rather, unusual courage, humility, and other character strengths. To me, a pattern in both contexts began to emerge: that the most highly creative individuals also possess particularly high spiritual sensitivity, and that their experiences in the Orthodox community have been so suboptimal that they see leaving Orthodoxy as their only tolerable choice.

Last, in families of religious artists I know personally, children approaching adolescence have begun to experience such high levels of distress in their Orthodox schools that a significant majority (85%) have dropped out. Most currently attend public school, others are home schooled, and the children remaining in Orthodox schools benefit from strong intervention from parents struggling to support their unique creative abilities.

I most especially feel helpless when I hear of a suicide case in which a young adult first defected from Orthodoxy due to deep spiritual searching and a lack of support for his or her "unique abilities." Without empirical evidence otherwise, I must accept that each case is isolated and no unifying cause exists that can be identified and addressed. This research is my way of combatting this helplessness: in any way I personally can, I hope to make a difference for others on this path in the future.

Even one case is one too many if it could have been avoided through deeper understanding of an individual in need. Is there a correlation between the distress of these individuals in Orthodoxy and their cognitive or personal traits? Is there something we can understand about these individuals that will prevent their loss of well-being? What exactly are they missing? Are there specific traits that distinguish individuals who experience stress in the Orthodox community and feel compelled to stop their pain through extreme measures? Can we identify these traits or abilities? No time is too soon.

These questions motivate my research. I hope, therefore, that my study will shed light on individuals who are gifted - creatively, artistically, and spiritually - who call out for attention to their well-being before one more soul is lost.

Chapter One, Introduction

"*I always think it's important for people to have two or three different ways to look at stuff. It's just the way that I am.*" – Whoopi Goldberg

"*If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away.*" – Henry David Thoreau*, Walden*

Overview

The adage that a "creative" individual walks to the beat of his own drum may hold truth. Individuals scoring high on tests of original thinking, creative personality or behavior consistently differ from their peers, both cognitively and emotionally (Barron, 1955; Dacey, 1989; Dellas & Gaier 1970; Feist, 1998; Goetzels, 1979; Gough & Domino, 1970; Guilford, 1950; Halpin, Halpin & Torrance, 1973; Runco, 1991; Scheier, 1965). Those with creative potential may not all reach the same level of success due to other personal traits, environmental influences, or a combination of the two (Amabile, 1996; Csikszentmihaly 1988, 1999; Dodds, Smith & Ward, 2002; Feist & Barron, 1993; Moss 2002, Scheier, 1965), but the process behind creative ideation is understood to be the same for all creators alike (Runco, 2014).

Creative thinking is distinct from both general intellect (Batey & Furnham, 2006; Cho et al, 2010; Cropley, 1968; Getzel & Jackson, 1962; Runco, 2004; Wallace & Kogan, 1965) and psychological imbalance (Batey & Furnham, 2006; Kasof, 1997;

Martindale et al., 1984): it is an asset of great value to society and possessed by relatively few (Barron, 1955; Batey & Furnham, 2006; Guilford, 1950; Runco, 2004; Selby, 2005; Taylor, 1964; Taylor & Barron, 1963). Aside from helping to foster well-being for all students, it is of value to understand creative students for what they can accomplish in the world with proper support.

In the Orthodox Jewish community, finding outlets to express artistic talent can be challenging (Eisenberg, 2010; Hochbaum Rosner, 2007; Sokolow, 2005), but increasing art courses alone may fall short of properly serving creative students. While outlets for expression are important, they still may not address students' cognitive and emotional needs. In addition to possessing talent in domain-specific areas, creative individuals share a set of cognitive and emotional traits that may aid them in the artistic process (Batey & Furnham, 2006; Selby et al, 2005). In an environment prizing conformity and external behavior over personal feelings, however, creative students may be inadvertently penalized by possession of these very traits.

Methods Summary

Studying a group of artistically inclined Orthodox adolescents and young adults, this study uses valid, reliable scales to assess subjects' abilities in two independent constructs, "creativity thinking" and "spirituality," and additionally investigates subjects' experiences in religious schooling. 54 students, both female and male, from across 4 countries participated in the study.

Artistic talent is measured by creative achievement (CAQ, Carson, 2005), creative thinking is measured by ideation ability (RIBS, Runco, 2006) and "spirituality," defined according to the classic distinction as intrinsic connectedness in contrast to extrinsic practice and reflecting a concept in Jewish Orthodoxy termed "intentionality" (*kavannah*), is quantitatively measured as a disposition to search for meaning (MLQ-S), and qualitatively by other factors as well.

Through tests of significance, this study aims to determine whether a positive correlation exists between the constructs of creative thinking, artistic talent and spirituality: whether all three are found in high measure in the same individual. Additional scales and questions are used to assess the support these students receive in their school environment in the areas of creativity and spirituality.

Problem Summary

In a setting that values critical thinking and innovation, creativity may warrant accolades, but in a traditional religious environment in which conformity to proscribed rules is prized, pronounced creative thinking or behavior may be penalized.

Further, according to a growing body of literature, the Orthodox Jewish community struggles against an overall spiritual "malaise" in its emphasis on behavioral rather than affective engagement (Haber, 2014; Feldman, 2013; Sokolow, 2005; Weinberger, 2012). For those with a strong disposition towards personal connectedness, an environment prioritizing behavioral practice over emotional connection may trigger cognitive dissonance or stress.

The possibility exists that these two trait sets may be present in the same individual who further possesses a third set of unique skills, talent in the arts, yet a third area for which Orthodox Jewish support is minimal (Sokolow, 2005, p.255). When encountering notably weak support in not only one, but three areas of personal strength, these three independent factors may compound to pose overwhelming challenge for an adolescent, increasing their risk for alienation, depression, or in the case of Orthodox Jews, religious defection.

Brief Literature Review

Definition of terms

Creativity as "divergent thinking." Since the early years of creativity research, identification of "creative" individuals has implied the ability to think divergently (Guilford, 1967; Zegas, 1976). While creativity theories have evolved to include more than divergent thinking alone (Csikszentmihalyi, 1999; Sternberg, 1991; Piffer, 2012; Silvia et al., 2008), measurements of divergent thinking continue to form the basis for creativity identification (Runco, 1991; Runco and Acar; 2012; Zeng, Proctor & Salvendy, 2011).

Artistic talent as "creative accomplishment." Artistic talent is identified and measured in empirical literature as "creative behavior" or "creative accomplishment" in contrast to creative personality and the cognition behind creative thinking. Although artistic talent and divergent thinking are unique constructs, a positive correlation between the two does exist (Guastello, 1992; Howieson, 1981; Runco, 1986; Zegas, 1976).

Spirituality as an internal experience. The classic definition of spirituality is an intrinsic, subjective personal feeling or experience (Allport 1966; Cohen & Hill, 2007; Hyman and Handal, 2006; Mattis, 2000; Meezenbroek et al, 2012; Zinnbauer et al, 1997; Zinnbauer, Pargament & Scott, 1999), in contrast or even contradictory to extrinsic religious practice (Allport 1966; Cohen & Hill, 2007; Elkins et al, 1988; Fromm, 1950; Moberg, 2002; Pargament, 1999; Slater, 2005; Tart, 1975; Turner et al, 1995; Zinnbauer et al, 1997, 1999). As the study of spirituality itself expanded, the term "connectedness," emerged to clarify the construct as a search for meaning in intrapersonal, interpersonal

and transpersonal areas (Ley and Corless, 1988, p. 101; Reed, 1992, p. 350) and has since been adopted as the single most significant identifier of spirituality (Johnstone, 2012).

Jewish spirituality as "kavannah." The concept of an intrinsic, emotional connection exists in Jewish philosophy, but the word "spirituality" confounds the conversation due to its view in empirical literature as contradictory to religious practice. Among many terms used in Jewish literature, the construct is most expressed as "*kavannat halev*" (directing the heart) (Job 11:13, 1 Shmuel 7:3), translated as "intentionality" and mandated as fulfillment of the Biblical obligation to engage the "heart" (Deut 11:13, Brachot 31a on 1 Shmuel 1:13, Isaiah 29:13, Tehilim 78:34-36, TB Brachot 28b, 30b, Rosh Hashana 28b, Bahag on TB Brachot 2 and 7). Volumes of work expound on this construct in subjects known as Jewish mysticism, Kabbalah, Chassidut and Mussar, characterized by a search for knowledge of either the self or the divine (Katz, 1975; Loewenthal, 2005, p. 412, n. 14-15; Mayse, 2014, p. xxi-xxii), and it is a fundamental part of Jewish religion (Dan, 1986, p.290; Elior & Louvish, 2004, p.16, Mayse, 2014; Schiffman, 2005; Talmage, 1986).

In addition to a negative view of "spirituality" potentially influenced by empirical views, however, in some traditional texts, the importance of the affective dimension is secondary to ritual practice in general (Kadish, 1997; TB Eruvin 64b-65a; TB Ran on Brachot 28b), translating to relatively weak attention in current practical religious observance and day school education (Feldman, 2013; Margolese, 2005; Tanny, 2012; Weinberger, 2012).

Overlap between creativity and spirituality

Implicit connection. Although an explicit connection between "spirituality" and "creativity" has not been tested prior to the current study, an implicit connection does exists in empirical literature (Albanese, 2001; Fontana, 2003; Gundrum, 1997; Schmidt, 1995; Sinha and Rosenberg, 2013; Slater, 2005). Studies have used spirituality to foster creativity (Abbs 1995; Colzato et al, 2012; Goleman et al 2002; Slater, 2005; Willis 2000), or creativity to foster spirituality (Flanders 1977; McMurtary 2007; Mountain 2007). Even within Jewish academic literature, several scholars recommend artistic mediums and "enhancements of creativity" to cultivate spiritual intelligence or "spirituality" (Haber, 2014, p. 15; Sokolow, 2005, p.255; Weinberger, 2012, p.8).

Overlapping traits. Several traits of personal disposition appear in both spirituality and creativity literature. Although research on the spiritual disposition is sparse, current literature identifies inquisitiveness, openness to experience, non-conformity or individualism, and negative social affect as reliable traits of a spiritual disposition (Goldberg, Pelcovitz & Rosenberg, 2011; Johnstone, 2012; Saraglou & Muñoz-García, 2008; Saucier and Skrzypinska, 2006; Shafranske & Gorsuch, 1984). These same traits appear frequently in creativity literature.

Creative traits include the construct of inquisitiveness, along with related terms of curiosity and preference for complexity (Barron, 1953, 1955; Guilford, 1950, p. 453; Hollingworth, 1942; Krueger, 1978; Sagone & Caroli, 2013; Wickes & Ward, 2006). In the FFM personality scale, the creative personality consistently scores high in the trait of "openness to experience" (Batey & Furnham, 2006; Dollinger & Clancy, 1993; Feist,

1998; Feist & Barron, 2003; Furnham, 1999; Gelade, 1997; King, Walker & Broyles, 1996; Mcrae, 1987; Wolfradt & Pretz, 2001), and a number of other traits reflecting the construct of "openness" surface in creative personality literature (Amabile, 1989; Cheung & Leung, 2014; Dacey, 1989; Guilford, 1950, p. 453; Rogers, 1954;, Renzulli, Systma & Berman, 2000; Runco, 2004; Sagone & Caroli, 2013; Scherbakova, 2010, p. 389; Selby, Shaw & Houtz, 2005; Stein, 1953, 1963; Sternberg, 1988; Vervalin, 1962; Wickes and Ward, 2006). Literature identifies the creative personality with a predisposition towards unique thought or behavior described as individualism or nonconformity (Albert & Runco, 1989; Barron, 1953; Feist, 1998; Goetzels, 1978; Halpin, Halpin & Torrance, 1973; Helson, 1996; Mackinnon, 1965; Vervalin, 1962), and also cites a characteristic experience of social alienation or the affect of androgyny (Dacey, 1989; Dellas & Gaier, 1970; Feist, 1998; Halpin, Halpin & Torrance, 1973; Helson, 1966; Scheier, 1965).

Further overlapping traits include emotional sensitivity as well as the ability to become fully absorbed in one's thoughts or work. In spirituality literature, the term "connectedness" used as a primary indicator of spirituality refers to the experience of "feeling" close (Zinnbauer et al, 1997), and creative individuals are frequently and consistently cited to be more highly emotional than non-creative peers (Gough & Domino, 1970; Piechowski, 1986; Scheier, 1965; Silverman, 1995, p.11; Vervalin, 1962). Finally, appearing in spirituality literature is the notion of absorption, or "self-forgetfulness" in the process of mental engagement with a task (Hamer, 2004; Johnstone, 2012; Saucier & Skrzypinska, 2006) which in creativity literature parallels the construct of "flow," a fully absorbed mental state for creative work (Csikszentmihaly, 1996)

Environmental impact

Difficulty for creative thinkers. Even without considering the rigor of a religious environment, research supports the possibility that classroom experiences may be more difficult for *any* student who asks more questions than average (Amabile, 1989; Davis & Rimm, 1994; Rimm & Davis, 1976) and that these students will experience overall difficulty in any normal school settings (Goertzel & Goertzel, 1960; Torrence, 1962).

In an Orthodox Jewish setting, accounts of negative experience caused by pressure to conform surface in the majority of 800-odd published narratives of defection (Deen, 2015; FluxStories, 2013; Lavin, 2015; Margolese, 2005; Ungar-Sargon, 2015; Unreich, 2008; Vizel, 2012), and among those who harbor the desire to leave, the fear of penalty for divergence from the norm is what keeps them in the community (Goldberger, 2013; Unger-Sargon, 2015).

Additional difficulty for artists. In the Orthodox community, artistic students receive little to no time in school supporting their abilities (Goldberger, 2016; Guterson, 2017; Sokolow, 2005, p. 255). Further, above average emotional sensitivity may lead to more deeply felt pain of rejection than less emotional peers (Baron, 1972; Dietrich, 2004; Packalen, 2008; Sinatra, 1984). Although empirical evidence has not yet been collected, defection from Orthodoxy does occupy a central issue in the lives of artistically gifted religious Jews, according to literature of a social media blog for creative Jews (Nehorai, 2017), interviews conducted in the modern Orthodox community (Kingflinger, 2009), and towards which end this research hopes to contribute.

Difficulty for spiritual seekers. Rabbis and educators reveal that contemporary

Orthodox communities focus more on external behavior than on the internal experience of faith and personal connection (Haber, 2014; Feldman, 2013; Sokolow, 2005; Weinberger, 2012). Whether due to the relative ease with which action can be regulated when compared with affective factors (Haber, 2014, p.11; Weinberger, 2012, p.8, Margolese, 2005, p.292) or to theological grounds,[1] individuals more inclined than average to seek meaning and personal connection may experience cognitive dissonance when meaning and connection are sublimated.

Notably, in the literature on both defection from Orthodoxy as well as the spiritual malaise among Orthodox Jews, community leaders and scholars have proposed a causal relationship between the two, attributing defection directly to the spiritual malaise (Feldman, 2013, p. 20; Margolese, 2005, p. 290; Tanny, 2012, p. 137; Weinberger, 2012, p. 6-7). An empirical study also corroborates these observations providing evidence that "high risk" behavior results from a sense of purposeless action (Newcomb & Harlow, 1986).

Conclusion of Literature Review. Although abstract, both the constructs of creativity and spirituality enjoy enough empirical discussion to warrant definition as well as reliable means of measurement. Trait-based research points to overlapping traits unique to both creative and spiritual dispositions. As each disposition encounters some

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[1] While originally important to religious service (TB Brachot 28b, 30b, TB Rosh Hashana 28b; Moreh Nevuchim 3:31, 3:51; Emunot V'Deot V: 6; Shaarey Teshuva 3:17; Sefer HaIkkarim, ch. 23), the requirement to engage emotionally became less obligatory beginning in the early modern period (Shulchan Aruch Orah Chayim 101:1, 98:2) due to its difficulty for common practitioners (TB Brachot 16a, Rosh Hashana 16b, Orchot Tzadikim Shaar Hateshuva p.164, Mishnah Brurah, 101:1), with current practice summarized by educator Moshe Abend: "the obligation (towards mitzvoth) does not depend either upon our consent to our comprehension, and we are commanded to fulfill them, not to analyze or internalize them" (Sokolow, 2005).

notable challenges in a mainstream environment, empirical grounds exist for the possibility of a compounded set of challenges if an individual is both creative and spiritual.

Theoretical Framework Summary

 Impact of the environment. This study relies on existing research of Teresa Amabile and Mihaly Csikszentmihaly indicating the influence of an immediate social environment to enhance or hinder creative output (Amabile, 1996; Beghetto, 2013), as well as environmental factors which can alienate or connect students to spirituality (Goldberg, Pelcovitz & Rosenberg, 2011).

 The measurement of creativity. This study follows the work of early scholars Guilford and Torrance, and contemporary scholar Mark Runco who have established divergent thinking as the cognitive basis for the creative process (Guilford, 1968; Runco, 1991; Runco and Acar, 2011; Torrance, 1974), with the acknowledgement that a "confluence" of factors, including the ability to produce a "new and useful" product in society may also be considered defining attributes of "creativity" overall (Amabile, 1996; Csikszentmihalyi, 1999; Moberg, 2002; Sternberg, 1991).

 The measurement of "spirituality." This study supports the work of several scholars who have proposed the construct of "spirituality" as a naturally distributed disposition, whether considered a facet of personality or cognitive ability (Emmons, 2000; Eynsenk, 1993; Piedmont, 1999; Saroglou & Munoz-Garcia, 2008; Saucier & Skrzypinska, 2006). It also relies on the understanding of spirituality as a construct

unique from religion and indicative of an intrinsic, subjective experience of connectedness (Hyman and Handal, 2006; Mattis, 2000; Meezenbroek et al, 2012; Zinnbauer et al, 1997; Zinnbauer, Pargament & Scott, 1999).

Further, this study accepts the disposition to search for meaning as an expression of connectedness to one's self (Elkins, 1988; Roehlkepartain et al., 2005).

Hashkafic differences. All subjects participating in this study affiliate with religious Judaism within the subgroup defined as "Orthodox." A wide range of differences divide even this group in many areas of life including dress code and approach to worldly knowledge. However, for the purpose of this study, even the most moderate (Modern Orthodox) group appeared to have only minor differences from those of the more right wing, thus the groups were deemed similar enough in their experiences to be considered one group simply identifiable with Jewish Orthodoxy. In the future, a study may be warranted to differentiate between experiences in each of the hashkafic groups, but given the volume of constructs assessed in this study and the noted similarity of experiences between the groups, hashkafic distinctions were not considered a significant factor. Where applicable, however, hashkafic distinctions were reported.

Hypothesis Summary

This study hypothesizes that artistically gifted students in the Orthodox community will exhibit exceptionally high abilities in both creative thinking as well as spiritual sensitivity. It further hypothesizes that their perception of school support for both creativity and spirituality in their school environment will be low.

Implications and Goals of Research

       Contributions to empirical research. If three areas of strength - artistic talent, creative thinking, and spiritual sensitivity are found to be high in the same individual, this will contribute to the fields of both creativity and spirituality research. It will support correlations between artistic talent and creativity, and will for both creativity and spirituality fields establish the need for further investigation of an overlap between creative and spiritual traits.

       Contributions to the Jewish community. For the Jewish community, results from this research can help educators understand and address an inadvertent exacerbation of challenge for "creative" students.

       The goals of this research include fostering greater understanding of creative students that will lead the way to more positive experiences for these individuals, and the generation of empirical evidence to support interventions such as "gifted" programming in the Orthodox community.

Chapter Two, The Problem

Introduction: Falling through "The Crack"

Creative students may need resources that are simply impossible to provide in a school offering an already packed curriculum, serving hundreds of individuals, and struggling with basic financial needs. There is room to say that if creative students seek amenities such as art or dance studios, or speciality training in art, music, theater or dance, they can enroll in extra-curricular programs now developing even within the religious community (Samlin-Miller, 2017). Speciality courses may not be mandatory educational requirements when accommodating a "dual curriculum" which already requires space for both Jewish and secular subjects within one school day.

However, providing creative students with the stage, instrument or palette to satisfy their need for expression addresses only one aspect of these unique individuals. While opportunities for talent development and expression do impact those gifted in creative fields, the cognitive and emotional make-up of creative individuals differs from their peers (Goetzels, 1979; Halpin, Halpin & Torrance, 1973; Scheier 1965), and their educational environment holds the potential to either foster their strengths and well-being or extinguish their intrinsic motivation entirely (Amabile, 1996; Beghetto, 2013).

Even more than in public education settings, in Orthodox Jewish schooling some traits typical of creative individuals can be considered problematic. Thus, an Orthodox school may offer conditions that inadvertently cause stress for creative students. Orthodox culture often attaches value to expressions of conservatism, tradition and conformity, and has been particularly noted for weakness in support for artistic

expression, innovation and "spirituality."

This study explores the overlap of several challenges in the Orthodox environment impacting the same child. Pairing the particular strengths of the creative child in divergent thinking and "spiritual" sensitivity with the particular areas of weakness in the Orthodox community in support for divergent thinking and "spiritual" connection reveals a potentially wide gap where basic needs of creative students may not be adequately met in an Orthodox school. Building on a possibly existing chasm between artistic talent and available channels of support for talent, creative students may face a compounded set of challenges to their well-being, putting them at higher risk for either depression or defection than non-creative peers. Although many new programs have appeared recently in the Orthodox community in support of artistic talent which will serve to narrow this gap, this study aims to understand the nature and width of this "crack" that gifted students may be at risk of falling through.

The loss of wellbeing or religious commitment among these students is magnified still by the consideration that creative students may comprise a minority group known as "gifted," a group with potential to excel beyond their peers if provided adequate support for their gifts (Getzels & Jackson, 1962; Lubinski, Benbow & Kell, 2014; Renzuli, 1984; Torrance, 1962, 1984). The magnitude of loss caused by lack of support for such students in what might otherwise have been achieved is unknown (Beghetto, 2014). Reducing challenges and increasing opportunities for growth and success for these students will not only help individual students, but will enable future contributions to the community emerging from the unique gifts these students possess (*ibid*).

General Challenges for "Creatives"

Being different. While the creative mind produces innovative ideas valuable for society (Batey & Furnham, 2006; Paulus & Nijstad, 2003; Runco, 2004; Selby, 2005), some accompanying personal traits may contribute to being viewed as different from peers or flawed in some way. Such traits include perception as disorganized, absentminded and accident prone (Barron, 1955; Gough & Domino, 1970; Scheier, 1965), androgynous or unpopular with the opposite gender (Dacey, 1989; Dellas & Gaier 1970; Feist, 1998; Halpin, Halpin & Torrance, 1973; Scheier, 1965), eccentric (Halpin, Halpin & Torrance, 1973; Scheier, 1965) or rebellious (Barron, 1955; Batey & Furnham 2006; Feist, 1998; Mackinnon, 1965). While emotional sensitivity can be an asset in many areas of life, the creative personality disposition towards excessive passion, intensity or excitability (Gough & Domino, 1970; Piechowski, 1986; Scheier, 1965; Silverman, 1995; Vervalin, 1962) may impact executive functioning (Bolden, et al, 2017) or be perceived as "instability" (Stein, 1974). In some cases, this tendency may be interpreted as attention deficit disorder (Kasof, 1997) or even more serious psychoses (Batey & Furnham, 2006).

Although being different from or judged by peers can be challenging at any age, it can be even more impactful during adolescence, a time when social acceptance holds weighted value (Brown et al., 1986).

The drive for independence. An additional trait of creative individuals is the drive for independence and the expression of individuality (Albert and Runco, 1989;

Barron, 1953; Halpin, Halpin & Torrance, 1973; Helson, 1996; Vervalin, 1962). An anti-creative environment may also prove worse during adolescence, a time when tendencies already strong in the creative disposition such as risk taking or asserting independence increase even more (DiClemente, Hansen & Ponton, 1996; Murphy, et al., 2008). The convergence of increased inner drives for risk and independence with inadequate validation or outlet for these may be difficult for a young person to manage even in public school settings.

Problem for teachers. Particularly in school, the "ideal student" profile contradicts most traits of the creative child, emphasizing the value of conventionality (Runco, 2004; Torrance 1968). Students offering unusual answers or exhibiting keen humor may irritate rather than please teachers (Amabile, 1996, p. 251, Runco, 1991; Getzels & Jackson 1962). Leading creativity scholar E.P. Torrance attributes his initial research motivation to the possibility that creative giftedness lay behind many behavioral and learning problems (Torrance, 2006).

Although a creative student may excel with support, both their morale as well as the quality of their work can be impacted by negative teacher attitudes (Beghetto, 2013; De Licciardello, Sagone & Castiglione, 2010). In particularly "anti creative" school environments, creative students may be at higher risk for dropping out (Hull, 2012).

Other problems. Research indicates that creative individuals are more at risk for alcoholism (Noble, et al 1993, Rothenberg, 1990; Runco, et al, 1990), stress (Carson & Runco, 1999; Mraz & Runco, 1994), and even suicide (Lester, 1999; Mraz & Runco, 1994).

Additional challenges in a religious environment

      Resistance to individuality and independent thinking. Success in general society may be aided by ambition and intrinsic motivation to achieve (Amabile, 1996; Helson, 1996; Terman, 1954). In secular environments, therefore, motivation, drive for independence and the expression of individuality can be encouraged. Within the context of religious Orthodoxy, however, these traits can sometimes be suppressed, whether passively through failure to recognize individual strengths, or actively, through intolerance of children who "don't fit the mold" (Goldberg, Pelcovitz & Rosenberg, 2011; Keleman, 2015; Kingflinger, 2009; Nehorai, 2017; Tal, 2016). In some communities, even slight expressions of individuality can be penalized (Lavin, 2015; Putz, 2010; Vizel, 2012; Winston, 2005). According to research on religious defectors in Israel, in some religious communities, autonomy does not constitute a value, but rather, weakness of character that becomes a target for contempt (Topel, 2012).

      Curiosity.

      "Curiosity killed the cat" - Ben Jonson.

      "I have no special talent. I am only passionately curious." – Einstein.

      Another fundamental creative drive is intellectual curiosity or inquisitiveness, the desire to attain knowledge (Deslisle & Galbraith, 1987; Hollingworth, 1942; Kreuger, 1978; Sagone, 2012; Stein, 1974; Wicks & Ward, 2006), which may be viewed favorably in secular schools. In some Orthodox religious environments, however, questions can be

suppressed or considered dangerous (Deen, 2015; Margolese, 2005; Vizel, 2012), secular knowledge may be rejected entirely (Margolese, 2005), and being educated, *oifgeklert*, can be considered a shame to the family (Vizel, 2012). Simply "having questions" appears to be a salient trait of religious defectors (Unger-Sargon, 2015; Winston, 2005).

Although for scientific study, motivation to investigate and acquire knowledge represents a fundamental need, the lack of endorsement for secular knowledge in these communities relies on respected religious teachings that innovation is forbidden (Chatam Sofer on Leviticus 23:14) or that religious study is the only acceptable life pursuit (Topel, 2012). However, it is precisely negative attitudes towards "outside" knowledge that has pushed more intellectually inclined young adults away from observance (Margolese, 2005).

Value of Conformity. A third trait common to creative individuals is the tendency to be unconventional or unconcerned with typical societal norms (Barron, 1953; Feist, 1998; Goetzels, 1978; Mackinnon, 1965). While the general expectation in Orthodoxy is that rules are followed, and breaking these rules is problematic, in some right wing communities, any form of nonconformist behavior is treated as a problem warranting extreme measures for rectification. In literature from defectors, nonconformity has been viewed as an "illness" to be treated with reformatories or medication (Putz, 2010; Unger-Sargon, 2015), or as a sin justifying penalties including property damage, severance of ties to family, marriage or employment; loss of custody or school expulsion of children, refusal of burial, or superstitious fears of disease to family members or prevention of their future marriages (Berger, 2014; Deen, 2015; Goldberger, 2013; Putz, 2010; Unger-Sargon, 2015; Vizel, 2012; Winston, 2005).

Those with personal traits of self-sufficiency or self-confidence may see past mechanisms to conform, and defect from religion rather than agree to community conditions as in the case of one woman who reported, "I'm not crazy, as some would like me to believe, because I can't conform and my thinking is different" (Unger-Sargon, 2015). For some, defection is the only way to stay healthy – or alive (Beloff, 2008; Putz, 2010), but many do conform under such pressure (Unger-Sargon, 2015).

Although more religiously right wing enclaves may stress conformity more than liberal Orthodox communities, the needs of "creative types" have been neglected even among Modern Orthodox (Kingflinger, 2009). In research conducted to assess interest in the development of an arts high school, Modern Orthodox subjects expressed disappointment in their own schooling experience:

> From the time I entered the day school system at the age of 4, until I left it at age 16, feels like one very long held breath. Not only did the linear, one-way-for-all mode of education not mesh with my independent spirit, but I was also a very creative child, with no outlet for self-expression during school hours. What resulted was an alienation felt on three fronts – educationally, creatively, and religiously. The mode of education did not speak to me, the rigidity of traditional subject matter and learning models stifled my self-expression, and my teachers were not role models I could emulate – they did not look like me, they espoused an ideology which I did not share, and they did not value the fields where I excelled" – M. Rose (Kingflinger, 2009).

In a 2005 survey of almost 300 defectors from Orthodoxy, 72% of those surveyed indicated that their educational experiences contributed to their move away from observance (Margolese, 2005).

Arts Expression. A positive correlation between creativity and arts expression has been researched and evidenced in empirical literature (Guastello, 1992; Howieson, 1981; Runco, 1986; Zegas, 1976), indicating that creative students would also be more likely to

exhibit talent in an artistic domain.

On one hand, the past decade has witnessed tremendous expansion in opportunities for arts training and expression within the Orthodox community with the development of new arts related summer camps, Sunday programs, theater productions, and a growing industry for women-only films and independent songwriters (Horowitz, 2017; Karpel, 2015; Rosenbaum, 2017; Samlin-Miller, 2017), as well as the growth of creative communities on social media. However, despite a handful of "Jewish Montessori" pre-schools and well-equipped but expensive high schools, the arts are not a priority in Jewish schooling (Nehorai, 2017; Sokolow, 2005; Tal, 2016), and at times, students may feel the intimation that arts are not endorsed in general for a "good Jewish boy" (Kingflinger, 2009).

Although only a minority of students possess the natural proclivity to innovate (Barron, 1955), for this small population, a lack of support for artistic expression can be intolerable. In the words of arts high school research subjects, "if arts had been more a part of my high school education, I would have felt more inclined towards working with the system, rather than against it, because it would have been a fuller embrace of myself as an organic whole" and "If I had an outlet for my creativity when I was in school, I would probably be religious today" (Kingflinger, 2009).

Religious education

Emphasis on behavioral practice. Spirituality is one area in which creative students may be challenged which has not yet been empirically investigated nor even discussed in creativity literature, yet in a religious setting holds particular importance.

In the religious community, much time and attention is understandably devoted to learning about and engaging in religious practices. Students must learn both actions as well as the laws guiding such actions. For centuries, layers of commentary have added volumes of literature to the basic curriculum, and under tremendous time constraint in the day, non-essential material can be justifiably eliminated. Curricular decisions are often a choice between competing priorities, and as a simple life of observance may be the most common denominator for all students to achieve, priority can be placed on the knowledge and actions most relevant to this outcome (Drazin, 1979; Goitein, 1999). Consequently, time for the practices of contemplation or introspection, or the attribution of primacy to emotional connection may be sacrificed due simply to time constraint (Goldberg, Pelcovitz & Rosenberg, 2011; Haber, 2014). Thus, even in an area such as prayer, which may benefit from focus on contemplation or emotional connection, Orthodox education may instead focus on the concrete knowledge laws and physical actions related to prayer rather than the cultivation of emotional connection during its practice.

Both teaching and assessing knowledge and behavioral expectations may also prove easier for educators than teaching or assessing processes of a more affective nature (Haber, 2014; Weinberger, 2012, Margolese, 2005). Most importantly, however, the affective dimension of prayer has been lowered in priority by respected scholars of Jewish philosophy and law, if not eliminated altogether as an obligation, beginning in the early modern period (Shulchan Aruch Orah Chayim 101:1, 98:2).

Although cultivating a personal emotional connection had formerly been considered essential (Talmud Bavli Brachot 28b, 30b, Rosh Hashana 28b; Moreh Nevuchim 3:31, 3:51; Emunot V'Deot 5:6; Shaarey Teshuva 3:17; Sefer HaIkkarim, ch.

23), this requirement was amended due to its difficulty for common practitioners (Talmud Bavli Brachot 16a, Rosh Hashana 16b, Orchot Tzadikim Shaar Hateshuva p164, Mishnah Brurah, 101:1), and thereby served to justify its elimination on religious legal grounds from a curriculum that may have a waiting list of other essential lessons to include.

As a minimization of priority placed on emotional connection and contemplation time is both administratively preferred and religiously justified, it has been adopted in many contemporary day schools – the goal of personal, emotional connection through prayer or practice is noticeably missing from most, if not all Jewish day school mission statements (Sokolow, 2005). Furthermore, this priority structure adequately serves the many students without particular strength or needs in the area of emotional connection.

However, for the population of students more disposed to emotional connection, this loss represents the elimination of an area of strength with the potential for success and joy (Csikszentmihalyi, 1996). Even in a subject matter such as prayer, during which the greatest expression of emotional intensity may be channeled and receive praise, students who most need this outlet or praise are denied these because the affective dimension is not a high enough priority in religious law.

Lack of emphasis on inner experience.

"What we are missing is a soul'" - Rabbi Kalonymos Shapira

In recent publications by spiritual leaders, educators and sociologists spanning New York, Baltimore, Australia and Israel, report that the Orthodox community suffers from a "lack of spirituality" (Feldman, 2013; Haber, 2014; Margolese, 2005; Sokolow,

2005; Tanny, 2012; Weinberger, 2012;). Nearly two hundred and fifty respondents reported that their former Orthodox communities had done nothing to encourage or cultivate "spirituality," and a majority of these respondents felt their communities did not value spirituality even if it did exist (Margolese, 2005).

This seems even worse when considering that the ideal aims of religion are related to connectedness in a spiritual realm (Zinnbauer, Pargament & Scott, 1999). In many Orthodox communities, the very place intended for the cultivation of this connection through contemplative prayer – the synagogue setting – is neither conducive to prayer nor places focus on inner spiritual life, with prayers taking place "at breakneck speed" (Feldman, 2013; Margolese, 2005). Some educators and religious leaders have noted that although the community labels itself as "religious," in practice it seems that rituals lack meaning and may function more as a sociological entity than faith group (Feldman, 2013, p. 16; Haber, 2014, p. 6-8; Weinberger, 2012, p.6).

The majority of authors addressing the subject of spirituality agree that the neglect of internal, affective, "spiritual" elements of Jewish practice can be attributed to a communal emphasis the external, behavioral display of ritual performance (Haber, 2014, p.18; Feldman, 2013; Margolese, 2005, p. 292; Tanny, 2012, p. 137). Spiritual leaders and sociologists lament that "we have trained ourselves not to look beyond ritual observance" (Tanny, 2012, p. 137), that "the internal Jew is neglected or is given second class treatment" (Margolese, 2005), and that even learned Jews who are generally scrupulous in their performance of the external mitzvoth are not always commensurately meticulous in their inner service (Feldman, 2013, p. 16). In a study of religious defection, one subject admits, "even a halfway reflective individual will be made anxious

by the dissonance between behavior and meaning" (Berger, 2015)**.**

Superficial religiosity weakens the entire community (Feldman, 2013; Weinberger, 2012), but causes even more harm for those seeking a personal spiritual connection Margolese, 2005). Students can feel alienated (Goldberg, Pelcovitz & Rosenberg, 2011; Kingflinger, 2009), if not become lenient in their practice or defect from Orthodoxy altogether (Feldman, 2013, p. 21; Margolese, 2005, p. 290; Weinberger, 2012, p. 6). Quoting Rabbi Kalonymous Shapira, Aish Kodesh in his work *Tzav V'Zeruz* (To Heal the Soul), Rabbi Moshe Weinberger cites that the soul needs stimulation, and seeks outlets for expression – those who do not find emotional outlets within divine service will be driven to forbidden sensation (Weinberger, 2012, p. 7, quoting Shapira, p. 23). Similarly, spiritual leader of a large American yeshiva interprets a Biblical verse, "where the pit is empty, it becomes filled with snakes and scorpions" (Shabbos 22a) to imply that compromises in observance find their original source in the abandonment of inner Judaism, claiming that it is only natural to search for sources of emotional engagement outside of Jewish law when "constrained by a system of behavior stripped of its intellectual depth and emotional resonance" (Feldman, 2013, p. 20).

Even in mainstream secular literature, research indicates that younger generations may abandon traditional religious observance if their faith has not offered them methods for personal, emotional engagement (Roehlkepartain et al. 2005, p. 1, citing Lindner, 2004), and that high risk behavior such as substance use increases when youth sense a lack of purpose behind their actions (Newcomb and Harlow, 1986).

Spiritual inclination of creative individuals. In empirical literature, overlap can be

found in descriptions of both the creative person and the individual disposed to "spirituality." Thus, the creative person may also be negatively impacted by the religious communal emphasis on behavioral practice and away from emotional connection.

While this area is new in research, spirituality can be viewed as a normally distributed trait closely linked to personality (Eynsenk, 1993; Piedmont, 1999; Saroglou & Munoz-Garcia, 2008; Saucier & Skrzypinska, 2006). In literature identifying and defining the "spiritual" disposition, evidence points to a direct parallel with traits significantly aligned with the creative person as well. These specific traits will be discussed in the review of literature, and empirical investigation of this overlap is an aim of the current study.

Magnitude of the Problem

Compounding of factors. As difficult as it is outside the enclave of an Orthodox community to remain motivated, manage emotions and find support for "out of the box" thinking or behavior, in a community with minimal support for the arts, intellectual curiosity and emotional connectivity, in combination with conditions penalizing nonconformity or the desire for autonomy, the creative student with his inborn cognitive and emotional strengths in these particular areas may face challenges greater than the average student in a religious school. The compounded layers of challenge for this unique child, additionally through adolescence when the search for identity and acceptance are at a peak, may simply be too much for a child to bear. For the reason of these many compounded challenges, this special population of creative children in the

Orthodox community may be at high risk for depression, religious defection, or worse (Feldman, 2017; Levine, 2015).

Lost potential of excellence. *"The great problem of learning to suffer fools gladly is one which many gifted persons never solve, as long as they live."* –Leta Stetter Hollingworth. Compounding the damage ever further is the fact that many creative students qualify for a population also described as "gifted" (Passow, 2004; Renzulli, 1978, 1984; Runco & Albert, 1985, 1986). Not only may these students suffer inadequate support for personal strengths or emotional needs, but they are among those who would excel beyond peers if educational opportunities matching their interest and ability level were available (Lubinski, Benbow & Kell, 2014). Original thinkers, while they may not follow the status quo, often rise to become the leaders of a generation (Hollingsworth, 1942; Torrance, 1962; Ward, 1961). Creative thinking contributes not only to the arts, but to the sciences, technology, and politics, and is largely essential for the progress and survival of mankind (Batey & Furnham, 2006; Runco, 2004; Selby, 2005).

Tendencies towards creative thinking or nonconformity are strongly correlated with gifted students and high general intelligence (Renzulli, 1978; Runco, 1991), and not with academic success (Guastello, 1992; Guilford, 1950, p. 444, Scherbakova, 2010, p.388; Sternberg, 1982), thus the gifted nature of these students would not be discerned by qualifications as completing homework or standardized test scores. Unfortunately, almost one in every four gifted students may be at risk for dropping out of school (Kyong, 2008). Given the variety of personality attributes among gifted students, some research has led to the division of gifted students into "types" based on common

experience, such as the "underground gifted" student who denies her talent to feel more socially accepted, or the "divergently gifted" type who may be more inclined to question or resist conformity (Betts and Neihart, 2006).

As a result of questioning or nonconformist behavior, the "divergently gifted" student may experience interactions involving conflict, receive few rewards or honors, or feel socially marginalized. He or she may struggle with self-esteem or hostility, frustrated by a system that has not affirmed his or her abilities. After years of feeling rejected or neglected, by adolescence this student may already be angry, depressed, withdrawn, prone to acting out, or resentful towards school. Although highly intelligent, creative, sensitive and talented, it is this population of gifted students in particular that may be most "at risk" for dropping out of school or delinquent behavior if appropriate interventions are not made in time (Betts and Neihart, 2006).

A culture of challenge. Similar to the observation that gifted students may be at risk due to poor accommodation for them within the school system, recognized spiritual leader Rabbi Matisyahu Salomon wrote in 2009 that it isn't accurate to call these adolescents 'dropouts,' but rather, they should be called "push-outs" (Keleman, 2015). Both sociologist Faranak Margolese and Rabbi Moshe Weinberger corroborate this powerful message that most formerly observant Jews today seem to have left not because the outside world pulled them in, but rather because the observant one pushed them out (Margolese, 2005, p. 37; Weinberger, 2012, p. 7). The environmental conditions of restraint as well as lack of support for creativity may compromise growth for these students (Amabile, 1996; Runco, 2004), and the lack of support for individuality and emotional connection may also impact students disposed to spirituality (Saucier &

Skrzypinska, 2006).

Halachic motivation. On the one hand, hundreds of thousands of Orthodox students will be fine. Both the ultra-Orthodox communities in Israel and New York boast populations of over half a million, and only 1% of this large population will be impacted (Brodesser-Ackner, 2017; Lavin, 2011, 2015; Putz, 2010). However, while only approximately 4,000 young people will be severely "at risk" out of the millions in the Jewish community, even according to religious law, saving even one life can justify a violation of otherwise important observance. For any one student losing hope, morale, or the will to continue living – an observant life or life at all – represents a tremendous loss too great for our community to bear, more so if we are the cause. According to several concerned educators, there is no greater challenge facing the Jewish world today (Feldman, 2014; Margolese, 2005).

Importantly, several voices attest to the fact that the challenging conditions for this unique population do not reflect authentic Judaism (Feldman, 2014, p. 7; Putz, 2010; Weinberger, 2012, p. 13). "G-d would not want this" says one defector (Putz, 2010). Thus, hope remains for communal change without the violation of traditional values, and rather, may fall squarely within the injunction to save a life.

Summary. Students "gifted" with unusually high abilities in creative thinking and artistic talent may find themselves at a disadvantage in navigating their years in an Orthodox school. This is neither because they are intentionally maligned nor because the religion looks upon them poorly per se – but rather, simply because of the low value or attention given to areas in which these students possess strength.

It is hypothesized that creative adolescents face greater challenges than the average student in Orthodox schooling because of overlapping circumstances of creative traits, heightened capacities for divergent thinking, artistic ability, and spiritual sensitivity. These challenges may predispose creative students to greater risk for negative experiences in Orthodox schooling leading to depression or defection unless interventions can be prioritized.

Chapter Three, Review of Literature

Introduction

The background literature for the concepts of both "Creativity" and "Spirituality" are handicapped by debate and lack of consensus on primary definitions, as well as relatively short histories of scientific inquiry.

"Creativity" in scholarly literature can be traced to the 19th century (Galton, 1869), but gained traction only after 1950 (Guilford, 1950; Sternberg, 2006) and still cannot claim unanimous agreement regarding either term definition or best practice in measurement (Batey & Furnham, 2006; Runco, 2004). By now, however, the study of "creativity" has generated enough research for the publication of comprehensive literature reviews and handbooks (Feist, 2017; Kaufman & Sternberg, 2007; Sternberg, 1999a; Weisberg 2006).

The study of "spirituality" is younger still. Appearing first as a topic wed to religion, the term has enjoyed distinction for less than two decades (Hill et al., 2000; Pargament, 1999; Turner et al., 1995). Until today, the concept remains criticized and difficult to define (Hyman & Handal, 2006; Miller & Thoresen, 2003; Miller-Perrin & Mancuso, 2015; Moberg, 2002; Schlehofer, 2008). The subject offers neither handbook nor comprehensive review other than one focused on spiritual development for children (Roehlkepartain et al, 2005) or treatments subsuming it within the subjects of religion or psychology (Paloutzian & Park, 2014; Pargament, 2013). However, interest in the study of spirituality is rising (Dihman, Roberts & Crossman, 2018; Heelas, 2005; Schlehofer, 2008), and the field does now provide enough literature for review in this study.

Definitions and Historical Overviews

Creativity literature

Early conceptions and general overview. The construct of creativity has been identified as an extraordinary ability since antiquity. Early writers describe it as a "divine gift" eluding measurement entirely (Batey & Furnham 2006; Khatena, 1982; Weisberg, 2006). In the late 19th and early 20th century, scholars began to empirically investigate a notion they refer to as "genius" (Cox, 1926; Dearborn, 1898; Galton, 1869; Hargreaves, 1927; James, 1890; Wallas, 1926), a construct distinct from intellect (Cox, 1926; Dearborn, 1898).

In 1925, however, despite early confirmation of a distinct ability, use of the word "genius" to denote intellect alone began with Terman's "Genetic study of genius" (Terman, 1925), which employed IQ as the basic indicator of "genius." Terman's appropriation of the word "genius" subsumed the notion of a distinct ability into the general idea of intelligence, and even until today segregating these two constructs can be difficult and controversial.

It took 25 years from Terman's adoption of the term until J.P. Guilford ultimately rebranded the construct, calling for an investigation of the notion of "creativity" in his APA presidential address of 1950 (Guilford, 1950). Guilford's call to action in the mainstream scholarly community witnessed the start of a deliberate, psychometric approach to understanding the construct of creativity independent of intelligence that persists until today (Barron, 1953, 1955; Guilford, 1950; Runco, 1991; Sternberg, 2006;

Weisberg, 2006).

Even at the height of investigations of creativity as a measurable construct, scholars faced obstacles justifying their results against the presumed superiority of IQ (Khatena, 1982), but research repeatedly confirmed the existence of a mental process distinct from general intellect qualifying as "creative" thought (Batey & Furnham 2006; Cropley, 1968; Getzels & Jackson, 1962; Wallach & Kogan, 1965). Based on the thesis that thought development progresses through stages (Wallas, 1926), creativity scholars acknowledged that *convergent* thinking, the type measured by IQ, was one stage in the expression of any idea, including a creative one (Barron, 1955; Batey & Furnham 2006; Guilford, 1950; Koestler, 1964; Merrotsy, 2013; Runco, 2004; Runco & Richards, 1997; Scherbakova, 2010), but it was *not* the stage characterizing the unique construct of "creativity" (Guilford, 1950).

The effort to segregate creativity from intellect has primarily been successful (Runco, 2004), but debate beset the field in identifying the precise mechanics of the brain during the stage from which "creative" thought emerges. Two theories surfaced in early research that became the basic concepts on which leading modern theories and measurements are based.

Some scholars pointed to "fluency," the ability to generate many answers rather than one (Galton, 1869; Hargreaves, 1927), while others claimed that the "remoteness," the uniqueness or originality of an idea, identified its creative strength (Dearborn, 1898; James, 1890). Guilford proposed what he called "divergent production" (Guilford, 1968, 1972), in which he included both fluency and originality, as well as additional aspects he

termed flexibility and elaboration. This eventually led to the term "divergent thinking" (Runco, 1991, 2014) as the cognitive process used when faced with open-ended tasks,.

Adopting Guilford's framework, E.P. Torrance developed tests to measure all of the proposed facets of divergent thinking (Torrance 1962). Although some tests did develop to measure either "remoteness"/originality (Mednick, 1962) or fluency alone (Hocevar 1979, 1980; O'Neal, Paek & Runco, 2015), the "Torrance Tests of Creative Thinking" (TTCT) have been popular since inception and have largely established "divergent thinking" as the cognitive process behind creativity (Batey & Furnham, 2006; Cramond et al, 2005; Plucker, 1999; Runco et al, 2010; Sternberg, 2006).

1960's: Creative personality. As the study of creativity grew in the 1960s, however, similarly did controversy regarding its definition. Delineating areas of potential study, one scholar proposed "Four P's" of creativity research as the "Process," the cognitive mechanism of creative ideation, the "Person," the traits accompanying or causing creative behavior, the "Product," an accomplishment of creative value, and the "Press," or environmental context in which creative work may happen (Rhodes, 1961).

Focus on the creative "person" enabled scholars to avoid the debates between intellect and the cognitive mechanism behind ideation by viewing creativity as a personality trait rather than a cognitive ability. From the 1960s through 1980's, personality studies of creative individuals multiplied, including significant research of Berkeley's Institute of Personality Research (IPAR) whose scholars included Barron, Mackinnon, Gough, and Helson.

It was clear even in early studies that individuals known for their creative

eminence exhibited an accompanying "personality" (Barron, 1955; Cox, 1926; Guilford, 1950; Mackinnon, 1965; Scheier, 1965). In research comparing 500 "creative" subjects to thousands within a control group, creative traits diverged sharply from traits in the non-creative group (Scheier, 1965), and in a study of 700 eminent creators, creative outcomes also seemed to correlate with specific traits (Goertzels, 1978). A team of scholars working with Torrance surveyed over 50 studies of the creative personality, and identified 84 characteristics that differentiated a creative from a non-creative personality (Halpin, Halpin & Torrance, 1973).

Research comparing the personality of "creative" and "less creative" individuals has generated a rich store of data, and remains a popular approach (Amabile, 1996; Ludwig, 1995; Selby, 2005; Sulloway, 1996). Most if not all scholars agree that, in addition to the cognitive process, non-cognitive aspects influence creative work (Amabile, 1996; Batey & Furnham, 2006; Scherbakova, 2010; Sternberg, 2004; Walberg et al, 2004), and studies have evidenced that personality may even predict creative accomplishment (Amabile, 1983; Feist, 1998; George & Zhou, 2001). A minority of scholars believe that personality may be the exclusive predictor of creative accomplishment (Eynsenk, 1983, 1993, 1997; Maslow, 1968; Wallach & Kogan, 1965), but research indicates that although it can be quite high, personality generally accounts for only a percent of variance in overall creativity (Feist & Barron, 2003; Furnham & Bachtiar, 2008).

1980's: Confluence theories. After three decades of serious scientific inquiry, however, consensus on the definition and measurement of "creative" ability still had not been reached, paving the way for yet new approaches to the question, such as Gardner's

theory of "multiple intelligences" and others (Gardner, 1983; Runco & Bahleda, 1986).

In the late 1980s, in addition to continued study of cognitive ability as well as creative

traits, attention began to focus on the outside influence of the environment in which

creative work was conducted, labeled as its "Press." This focus generated a body of

research in the social psychology of creativity (Amabile, 1983; Feist & Runco 1993,

Harrington, 1990; Runco, 2004; Sternberg, 1988).

Emerging from this body of work has also been a shift of focus on creative

assessment away from cognition and personality and rather onto "Product," which can be

evaluated based on more "consensually agreed" standards of accomplishment such as

ratings by experts in a particular domain. This approach has become popular among both

scholars and practitioners (Amabile, 1996; Csikszentmihaly, 1999; Mumford, 2003;

O'Neal, Paek & Runco, 2015) as it seemingly avoids previous areas of controversy and

purports objectivity in measurement.

Agreement that both personality and environment factor significantly in creative

outcomes gave rise to theories of "confluence" – that creativity cannot be attributed to

one reason, but on the "confluence of many reasons." Theories emerged attempting to

integrate the range of phenomena influencing creativity, such as "Systems" theories

(Csikszentmihaly, 1999; Gruber, 1988; Woodman, Sawyer & Griffin, 1993), "Investment

Theory" (Lubart & Sternberg, 1991, 1995), the "Componential" theory (Amabile, 1983,

1996) and others (Paulus & Nijstad, 2003; Sternberg, 1999b).

Current trends. While the field of "creativity" has grown from eleven articles in

1950 to six peer reviewed journals since the early 1980s (Runco, 2004) as well as

handbooks, encyclopedias, comprehensive literature reviews, and more than 143 scholars of creativity (Albert & Runco, 1999; Pinheiro & Cruz, 2014; Runco, 1997, 2004; Runco & Albert, 1990; Williams, Runco & Berlow, 2016; Sternberg, 1999a), confusion in the field remains (Batey & Furnham, 2006; Runco, 2004). After more than a century, scholars have confirmed the initial conclusion that creativity is not identical to IQ (Batey & Furnham 2006; Runco, 2004), but its precise definition and accepted form of measurement unfortunately continue to evade consensus. According to leading modern creativity scholar Mark Runco, the field may have become *too* diversified, branching into the field of business or general problem solving, no longer assessing "creativity" but rather "productivity," which has not helped us better understand the mechanism of creative capacity (Runco, 2004).

With advances in technology, recent years have witnessed expansion of research into brain imaging either during the creative thought process, or in the brains of "creatively accomplished" individuals (Abraham, 2013; De Dreu et al, 2014; Jung et al, 2010, 2013; Martindale, et al, 1984, 1999; Reuter et al, 2005), as well as digital methods to measure response time (Acar & Runco, 2014; Beketayevab & Runco, 2016) as a way to identify creative competence. While no "CQ" – creative quotient – yet rivals the "g" of general intelligence known as "IQ," the Torrance tests are typically used today to identify the cognitive skill of "divergent thinking" for admission into gifted programs (Kim, 2006).

Modern scholar Mark Runco has identified the primary skill behind divergent thinking, combining abilities in fluency, originality, flexibility and elaboration as a process called "Ideation" (Runco, Plucker & Lim, 2001). The study of creative

"ideation" has gained popularity in the business sector in the hopes it will foster innovation and effective problem solving (Parkinson, 2009; Proctor, 1999; Watson, 2017). Moreover, merging both Guilford's approach as well as the popular "confluence" definitions of creativity (Amabile, 1996; Csikszentmihaly, 1999; Lubart & Sternberg, 1991, 1995), Runco has developed an "ideation scale" which measures not only fluency, originality and flexibility, but also the quality of creative product (O'Neal, Paek & Runco, 2015; Runco, Plucker & Lim, 2001).

With new technology, tools and continued interest, the field of creativity may yet achieve a convergence of theories, despite its continued attraction to divergently gifted scholars.

Spirituality literature

Separating the constructs of "religion" and "spirituality." The subject of "religion" itself is relatively new to scientific study, flourishing only in the 1960s (DeCruz, 2017), and until recently, "spirituality" has been considered an inseparable part of the study of religion (Hill et al, 2000; Pargament, 1999; Schlehofer, 2008; Spilka et al, 2003; Turner et al, 1995; Zinnbauer et al, 1997; Zinnabuer, Pargament & Scott, 1999). Segregating the two constructs has been challenged by the utility of combining them for research in other fields. For example, the two constructs have been merged as "faith" to test the impact of faith - whether spiritual or religious - on health and wellness (Fetzer, 1999; Neff, 2006; Piedmont, 2008; Plante, 2012). A second challenge in segregating the constructs is the specific agenda of finding a common denominator between them such as

"sacred" (Pargament, 2013; Pargament, Exline & Jones, 2013). Areas of overlap do exist, but simply confound the process of distinction between the two constructs.

Further, separating the constructs may have been confounded by the individualistic nature of the predominant American religion, Protestantism (Bellah, 1985; Cohen & Hill, 2007; Hill et al, 2000; Zinnbauer, Pargament & Scott, 1999). As the leading faith of both study participants and scale developers (Cohen & Hill, 2007; Hyman & Handal, 2006; Hungelmann, 1985), Protestant emphasis on intrinsic, personal experience as characteristic of practiced religion may have swayed both test developers and test subjects towards defining "religion" by qualities traditionally attributed to spirituality. As the field has grown, however, so too has realization that Protestant Christianity should not be the sole understanding of religiosity (Hyman & Handal, 2006; Hungelmann, 1985; MacDonald et al, 2015).

In addition to the appreciation of non-Protestant conceptions of religion, identification with the phrase "spiritual but not religious" has grown (Fuller, 2001; Saucier & Skrzypinska, 2006). Those who identify as such do not affiliate with a religious faith, but nevertheless strive for inspiration, meaning and purpose, searching within themselves for sources of meaning rather than subscribing to group beliefs (Meezenbroek et al, 2012). While yet a minority, this group represents fifteen to twenty percent of Americans (Adler, 2005; Fabricatore, 2002; Fuller, 2001; Pew, 2008; Roehlkepartain et al. 2005; Zinnbauer et al, 1997), roughly 50-60 million people, and continues to increase (Newport, 2012; Miller-Perrin & Mancuso, 2015; Zinnbauer et al, 1997), most rapidly among young adults (Berry, 2011).

This growth has accompanied a decline in "religious" group affiliation, attributed to a perceived weakening of its relevance or confidence in its leadership, as well as the belief that traditional faith groups may prevent rather than facilitate members' personal experience of what they seek (Bruce, 1996; Bezilla & Princeton Religious Research Center, 1993; Turner, et al, 1995; Zinnbauer, Pargament & Scott, 1999). Potentially due to shifts in culture, Americans increasingly appreciate personalized and individualistic expression (Zinnbauer, Pargament & Scott, 1999).

Since 1980, interest in the exclusive construct of "spirituality" has grown (Spilka et al, 2003; Meezenbroek et al, 2012; Roehlkepartain et al., 2005; Seidlitz, 2002; Weaver et al, 2006; Zinnbauer, Pargament & Scott, 1999), evidenced by the emergence of 400 new spiritual associations nationwide and a 688% increase in the rate of publications on spirituality and health (Meezenbroek et al, 2012; Weaver et al, 2006). Science has even witnessed the development of a new field termed "Neurotheology," the study of spirituality in the brain (Sayadmansour, 2014). However, the study of spirituality remains young to scientific inquiry, with its emergence as a distinct construct only within the past two decades (Hill et al, 2000; Johnstone et al, 2012; Meezenbroek et al, 2012; Miller-Perrin & Mancuso, 2015; Pargament, 1999, Schlehofer, 2008; Seidlitz, 2002; Turner et al, 1995; Zinnbauer et al, 1997, 1999).

Classic definition of spirituality. Spirituality has been most frequently distinguished from religion according to the "classical conceptual distinction" of spirituality characterized by intrinsic feeling, with religion characterized as extrinsic practice (Allport 1966; Cohen & Hill, 2007), although the terms have also been differentiated as subjective verses objective (Hyman & Handal, 2006; Mattis, 2000;

Vaughan, 1991, p105; Zinnbauer et al, 1997), individualistic verses collectivist (Cohen &

Hill, 2007; Triansdis & Gelfand, 1998), personal experience verses proscribed belief

(Zinnbauer, Pargament & Scott, 1999), or esoteric (contemplative, oriented to

knowledge, wisdom, unification with divinity, towards the "intent" rather than the

"letter" of the law) verses exoteric (claim to exclusive possession of truth, emphasis on

morality and reward) (Schuon, 1953). Modern scholars have conducted studies to assess

the implicit beliefs in how the constructs are viewed by both laity and religious

professionals (Hyman & Handal, 2006; Mattis, 2000; Schlehofer, 2008; Zinnbauer et al,

1997), and in all studies, descriptions have largely followed the same pattern of

distinction.

Some scholars conceive of spirituality as the polar opposite of religion (Moberg,

2002; Pargament, 1999; Zinnbauer et al, 1997, 1999), and may even attribute a negative

valence to religious affiliation, viewing extrinsic practice or proscribed belief as a

hindrance to spiritual growth (Allport, 1966; Elkins et al, 1988; Fromm, 1950; Slater,

2005; Tart, 1975; Turner et al, 1995; Zinnbauer et al, 1997, 1999). Empirical research

across all faiths has shown that mental health is not impacted by religious practice alone,

but only by religious practice effusing the characteristics of spirituality (Johnstone,

2012). Aside from the negative valence assigned to religion at times, however, all studies

have made distinctions between the two as independent constructs, understanding

"religion" to denote behavioral rituals and organizational practices, and "spirituality" to

imply an internal, subjective experience (Hyman & Handal, 2006; Mattis, 2000;

Meezenbroek et al, 2012; Zinabauer, 1997, 1999).

Lack of consensus, however, persists on whether this subjective experience is

related to a higher power. Many definitions of spirituality do explicitly include the dimension of transcendence, connecting to something outside one's self (Elkins et al, 1988, Piedmont, 1999; Reed, 1992; Walsh & Vaughan, 1993), whether this something is "higher" or not.

Spirituality as connectedness. The majority of definitions rely on a term called "connectedness," the experience of connection (Benson, Roehlkepartain & Rude, 2003; Chiu et al, 2004; Dyson, Cob & Forman, 1997; Emmons, 1999, p. 877; Goldberg, Pelcovitz & Rosenberg, 2011; Gomez & Fisher, 2003; Hamer, 2004; Hungelmann et al, 1985; Johnstone, 2012; Meezenbroek et al, 2012; Piedmont, 1999; Reed, 1992; Soeken & Carson, 1987; Roehlkepartain et al., 2005).

The term "connectedness" first appeared in a 1992 literature review in the field of nursing, defining spirituality as "the propensity to *make meaning through relatedness,*" and defining relatedness as "connectedness with oneself, to others, and to the divine" (Reed, 1992, p. 350). Although this construct can be interpreted as the awareness of interconnections in general (Roehlkepartain et al., 2005), according to Reed and others, connectedness as a definition of spirituality is expressed in three specific areas of *intrapersonal* (a connectedness within oneself), *interpersonal* (in the context of others or the environment) and *transpersonal* (referring to a sense of relatedness to the unseen, God, or power greater than the self)" (Ley and Corless, 1988, p. 101; Reed, 1992, p. 350).

Transpersonal connectedness. According to this three-fold conception of connectedness, the idea of transcendence is subsumed within the domain of transpersonal connectedness, distinct from connectedness to the self or connectedness to others. In

addition to "transpersonal connectedness," terms within spirituality literature reflecting the transpersonal domain include "transcendental experience," "sacred," "beyond human," "beyond the physical," and "ultimate other" (Cook, 2004; Elkins et al, 1988; Hamer, 2004; Hungelmann, 1985; Meezenbroek et al, 2012; Saucier & Skrzypinska, 2006). These terms seem to reference the construct of transpersonal connectedness as Hill et al. (2000) agree that terms can be defined by related constructs.

Interpersonal connectedness. Interpersonal connectedness refers to the connection to others. Alternative terms have also been used in connection to the concepts "connection to others" or "connection to the world," including compassion, empathy, humility and gratitude (Goldberg, Pelcovitz, Rosenberg, 2011; Hyman & Handal, 2006; Lichtenstein, 2005; Meezenbroek et al, 2012; Reed, 1991; Roehlkepartain et al., 2005). At least one of these terms can be found in all the leading scales measuring "spirituality" (Hyman & Handal, 2006).

Intrapersonal connectedness. The domain most referenced in the literature is intrapersonal connectedness, or "connectedness to self." This form of connectedness has been described as "authenticity," "self-knowledge," and awareness of "meaning," "purpose" or "mission" in life (Chiu et al, 2004; Elkins et al, 1988; Howden, 1992; Hungelmann et al, 1985; Mahoney & Graci, 1999; Young-Eisendrath Miller, 2000).

Even when not used to describe intrapersonal connectedness in particular, these terms appear in spirituality literature as descriptors of spirituality itself (Benson, Roehlkepartain & Rude, 2003; Emmons, 1999, p. 877; Goldberg, Pelcovitz & Rosenberg, 2011; Miller & Barker, 2016; Roehlkepartain et al., 2005; Saucier & Skrzypinska, 2006;

Soeken & Carson, 1987; Tart, 1975; Zinnbauer et al, 1997), as do terms such as "introspection," "self consciousness," "the disposition to be highly aware of internal states," and "innerness" (Fenigstein, 1975; Howden, 1992; Reed, 1991). From among the terms related to intrapersonal connectedness, the construct of a *search or quest to find meaning* has also been independently included as a descriptor of spirituality itself as well (Burkhardt & Nagai-Jacobson, 1985; Dyson et al, 1997; Howden, 1992).

Additional constructs identifying spirituality.

Nature. An appreciation of "nature" has sometimes been considered an independent descriptor of spirituality (Meezenbroek et al, 2012; NICA, 1975), but has also at times been included as part of the *interpersonal* domain (Reed, 1992, Hungelmann, 1985) as a facet of connectedness to the "world," and at other times as part of the *transpersonal* domain, used to replace the transcendent construct of "G-d." In the transpersonal domain, allowing "nature" to replace the construct of a "higher being" enables spirituality even among atheists for whom transpersonal connection might be otherwise avoided. This literature defines "G-d" as "that which is of highest value in life" (Dyson, Cobb & Forman, 1997, p.1185; Jourard, 1971, p. 307; Stoll, 1979, p. 1574), thereby opening the transpersonal domain to elements of the physical as well as meta-physical sphere.

Emotionality. Not only has "connectedness," but also spirituality itself been described as the experience of "feelings" (Dyson et al, 1997, p. 1186; Johnstone, 2012, p. 539; Zinnbauer et al, 1997). Although a specific correlation between the terms spirituality and emotionality does not manifest clearly in empirical literature, the

academic study of emotion has only developed in recent decades and does include some work on religious expression (Corrigan, 2004).

Search orientation. An additional attribute referenced both within descriptions of connectedness as well as independently as a unique indicator of spirituality is the notion of "search orientation." In association with connectedness, some scholars differentiate the search *for* connectedness from the *attainment of* it as two distinct descriptors (Meezenbroek et al, 2012; Scott, 1997). Independent of connectedness, some literature uses the term "search" in application to *any* spirituality descriptor, whether the search for connectedness or the search for meaning, or even employ it as a unique spirituality descriptor, as *the drive to search* (Benson et al, 2003; Dyson et al, 1997; Hill & Pargament, 2003; Howden, 1992; Miller & Thoresen, 2003; Roehlkepartain et al. 2005). Thus, it may be proposed that an orientation towards searching, or a "search orientation" can even be considered an indicator of spirituality strong enough to exist independently of "connectedness" as well.

The Jewish conception of spirituality

"Is it conceivable that we toil in investigations to which we are not obligated, in laws which are not applicable to us, and leave to habit and rote those matters to which we are so greatly obligated?" – Rabbi Chaim Luzzatto, Mesilat Yesharim

Spirituality" as an English word. In religious Judaism, the word "spirituality" ironically evokes discomfort if not outright criticism, and the term is commonly avoided (Haber, 2014, p. 11-12; Lichtenstein, 2005; Margolese, 2005, p. 292; Weinberger, 2012,

p. 8; Sokolow, 2005). This stems not from a Jewish avoidance or rejection of a subjective, intrinsic, personally felt or experienced emotional connection. Rather, it is the English word "spirituality" that confounds the conversation.

Although the direct translation for the term "spirituality" would theoretically be *ruchniut*, from *ruach* meaning "spirit," this translation implies incorporeality (Green, 1986; Lasker, 2005; Schiffman, 2005, p. 39) and may rouse skepticism based on the anti-dualist nature of Judaism, the belief that "spirituality" resides within the physical world itself (Deut. 12:23; Gen. 9:4-5; Lev. 17:11; Mayse, 2014, p. xxiv n. 14; Pinson, 1999, p. 152; Schiffman, 2005, p. 47). In other words, Judaism believes that a connection to or cultivation of "spirituality" takes place *through* engagement in physical action and not apart from it (Lichtenstein, 2005; Schiffman, 2005). As a result, the common empirical segregation of spirituality from religious practice represents a departure from Jewish belief and not alignment with it.

However, in a contemporary treatment of the subject of spirituality from an orthodox Jewish perspective, Rav Aaron Lichtenstein points out that the word "spirituality" may be used simultaneously to describe several unique constructs (Lichtenstein, 2005). Use of the word in application to the wrong construct may underlie orthodox resistance to the term.

Translation of the construct into Jewish terminology. Rather than employ the English word "spirituality," but accepting in its place a description of the construct of a personal, internal emotional experience, numerous terms used throughout Jewish scholarship that reflect the same construct emerge.

The most accurate and widely used term may be "*kavannat halev*" (directing the heart) (Job 11:13, 1 Shmuel 7:3), at times abbreviated as *kavanah*, translated as "intentionality" and mandated in traditional Judaism until modern times (Brachot 28b, 30b, Rosh Hashana 28b, Bahag on Brachot 2 and 7) as fulfillment of the Biblical obligation to engage the "heart" (Deut 11:13, Brachot 31a on 1 Shmuel 1:13, Isaiah 29:13, Tehilim 78:34-36), or the emotional, affective capacity, even during the behavioral practice of religion.

Additional terms used in religious literature reflecting the inner experience understood in empirical literature to be "spirituality" include *penimiyut*, or "inwardness" (Green, 1986; Weinberger, 2012), *penei H'* used in the Bible to indicate a personally felt religious experience (Deut 16:16, Ps 11:4-7, Schiffman, 2005, p. 45), *toch,* or "that which lies within" as used by Avraham Isaac Kook[2] (Talmage, 1986, p.345 n.148), *ohr* meaning "inner light," as used by Chassidic scholars (Weinberger, 2012), *taamei hamitzvot,* the "meaning behind the practices" (HaBavli, 1571; Maimonides, 1190; Recanati, 1770)[3], the "inner mitzvot" as termed by 13th c. rabbi Jonah of Girona (Girondi, 1505), or even notions such as *derech eretz*, behavior exhibiting consideration for others (Weinberger, 2012) as well as the basic aim to cultivate character that is sincere, authentic, and without hypocrisy (Feldman, 2013; Weinberger, 2012).

Fundamental nature of the construct in Judaism. In addition to identifying Jewish terminology that may accurately reflect the empirically understood construct of

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[2] Iggarot, Letter 134, 1:163
[3] Rabbi Moshe HaBavli (Taamei HaMitzvot); Rambam (Guide to the Perplexed 3:31); Rabbi Menachem Recanati (Taamei HaMitzvot HaShalem)

"spirituality," the construct may also be understood as Jewish "mysticism," referring not to a closed set of teachings, but to a range of spiritual paths and religious experiences with the goal of an authentically, emotionally felt religious experience and characterized by a search for knowledge of either the self or the divine (Mayse, 2014, p. xxi-xxii; Loewenthal, 2005). Use of the word "mysticism" enjoys even empirical support from the work of Gerard Saucier (2000, 2006) and Ralph Hood (1975), whose research also defines and measures the construct of "spirituality" as an expression of "mysticism."

The body of work known as Jewish mysticism, manifest in works explaining prophetic visions, journeys to heaven, and the Kabbalah, has subsequently led to the development of Chassidism, which addresses methods for achieving emotional connection with the Divine as well as the search for self-knowledge (Loewenthal, 2005, p. 412, n. 14-15). Works of the Mussar movement, which address the refinement of character traits towards one's fellow man, find their source in early works promoting internal and emotional connection as well (Katz, 1975). Thus, volumes of works studied and published even today may espouse the empirically held definition of "spirituality," despite orthodox resistance to use of the term.

Aside from finding its representation in Jewish terminology or volumes of literature, the notion of "spirituality" as defined in empirical research is a fundamental goal of religious Judaism. Jewish mysticism is based on primary Jewish beliefs and traditions (Dan, 1986, p.290; Elior & Louvish, 2004, p.16, Mayse, 2014; Schiffman, 2005; Talmage, 1986), and even in mainstream traditional scholarship, sources indicate the affective dimension as paramount to religious observance, from the time of the Bible (Devarim 10:12; Isaiah 29:13; Yeshayahu 29:14), through classical and late antiquity

(Avot 2:13; Bahag on Talmud Bavli Brachot 2 & 7, TB Brachot 13a-b, 30b, 31a, Rosh

Hashana 28b, 32b, 33b), until medieval and early modern periods (Albo, c.1500;

Gerondi, 1505; Ibn Pakuda, 1040; Maimonides, 1170-1190; Meiri, c.1300; Saadya Gaon,

933, Sternbuch & Asher, 1992).[4]

Argument against the construct. Not long ago in the history of Jewish

scholarship,[5] however, the value placed on the affective dimension reflecting the

construct of "spirituality" weakened. Although some scholars today do value the

affective dimension (Yosef, 2014),[6] religious literature also provides sources to construct

a case against the importance of the affective dimension (Isserles, 1905; Karo, 1565;

Kadish, 1997; TB Eruvin 64b-65a; TB Ran on Brachot 28b) exemplified by the statement

that "man's actions, not the spiritual zeal that may underlie and animate them, are the

sine qua non for his ability to draw close to G-d" (Finkel/Volozhin, 2009/1824).

Although this "action over passion" approach represents a view that dates only to

the early modern period in the legal code *Shulchan Aruch* (Karo, 1565) and its early 20th

century gloss *Mishnah Brurah* (Isserles, 1905), the sublimation of the affective

dimension to behavioral considerations pervades the climate of Orthodox practice today

(Feldman, 2013, p. 16; Haber, 2014, p. 18; Margolese, 2005, p. 292; Tanny, 2012, p.

137), following the view of contemporary Jewish educator Moshe Abend that "our

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[4] Yosef Albo (Sefer HaIkkarim, ch 23), Rabbeinu Yonah (Shaarey Teshuva 3:17); Bahya Ibn Pakuda (Chovot HaLevavot Shaar Cheshbon HaNefesh, Ch. 3); Rambam (Moreh Nevuchim 3:31, 3:51; Mishnah Torah Hilchot Tefillah 4:16); Meiri (response to Ran/Rashba/Ritva on TB RH 28b); Saadya Gaon (Emunot VeDeot, 5:6); Rabbeinu Asher (Orchos Chayim LeHarosh 36);

[5] Early modern period (Caro, 1565) and 20th century (Isserles, 1905)

[6] Ovadia Yosef (on M.B. 101:1 *Yalkut Yosef or MB Tiferet* 3, 8:10-11)

obligation towards (mitzvoth) does not depend upon our comprehension; we are commanded to fulfill them, not to analyze or internalize them" (Sokolow, 2005).

Summary of Jewish approach to spirituality. Despite justified legal support (Caro, 1565) as well as a mistranslation of the English term "spirituality" causing resistance to the construct's embrace in both contemporary communal practice and day school education (Feldman, 2013; Margolese, 2005; Tanny, 2012; Weinberger, 2012), nevertheless traditional Judaism seems to promote an obligation to foster emotional "connectedness" and self-understanding, as well as know the purpose behind ritual observance, and only in modern sources and practice has this priority on "spirituality" been compromised.

Personality Traits

The creative personality. Decades of data since the 19th century inception of creativity research indicate strong support for the existence of a creative personality. This data takes the form of lists of creative characteristics (Barron, 1955; Feist, 1998; Mackinnon, 1962, 1965; Rogers, 1954; Scheier, 1965; Terman, 1954; Vervalin, 1962), the development of creative personality measurements (Domino, 1970; Renzulli, Hartman & Callahan, 1975), summaries of creative personality research (Barron & Harrington, 1981; Davis & Rimm, 1982), and the distilling of hundreds of creative traits into trait clusters, sometimes as few as four (Amabile, 1989; Dacey, 1989; Martinsen, 2011; Sagone & Caroli, 2013; Selby, Shaw & Houtz, 2005; Treffinger, 2006).

Creative profile in general personality systems. With the development of general

personality theories in the early 1990s (Costa & McCrae, 1992; Eysenck, 1993), how the creative personality correlated with these mainstream systems fostered its own body of literature. According to the "Big Five" system of Costa & McCrae (1992), the creative personality consistently scores high in the trait of "openness to experience" (Batey & Furnham, 2006; Dollinger & Clancy, 1993; Feist, 1998; Feist & Barron, 2003; Furnham, 1999; Gelade, 1997; King, Walker & Broyles, 1996; Mcrae, 1987; Wolfradt & Pretz, 2001). Research also supports the FFM "creative" score to reveal "low agreeableness" (Dollinger & Clancy, 1993; King, Walker & Broyles, 1996), as well as a distinction between artists and scientists in the area of "Conscientiousness" manifesting as high conscientiousness for scientists and low conscientiousness for artists (Feist, 1998; Gelade, 1997; Hong, Peng & O'Neil, 2014; Wolfradt & Pretz, 2001).

In correlating the "creative personality" to the scales of Eynsenk, evidence is less consistent. Although research often supports the positive correlation of creative personality with the "Psychotic" (P) trait of Eysenck scales (Aguilar-Alonso, 1996; Batey & Furnham, 2006; Gotz & Gotz, 1979; Merten & Fischer, 1999; Upmanyu, et al, 1996; Woody & Claridge, 1977), other studies have produced tenuous results (Kline & Cooper, 1986; Martindale & Dailey, 1996; Sen & Hagtvet, 1993).

Traits in creative personality literature. In addition to traits considered creative in juxtaposition with general lists of personality traits, with Eysenck and FFM "Big Five" the two most widely used, some traits also emerge from studies addressing creative personality in particular. In reviewing literature for the current study, a comparison of roughly twenty-five scales reveals some traits appearing with frequency and consistency in "creative personality" literature.

Traits appearing with moderate frequency include self-sufficiency (Albert & Runco, 1989; Hong, Peng & O'Neil 2014), self-confidence or optimism (Feist, 1998; Renzulli, Systma & Berman, 2000; Terman, 1954) and the appearance of eccentricity (Halpin, Halpin & Torrance, 1973; Scheier 1965; Torrance 1966). Frequent but inconsistent traits include contrasting trait sets of introversion - extroversion and impulsive - disciplined: some studies claim creativity correlation with introversion (Halpin, Halpin & Torrance, 1973; Scheier, 1965) and others with extroversion (Renzulli, Systma & Berman, 2000; Sung & Choi, 2009), similarly, some correlate creativity with impulsivity (Barron, 1955; Mackinnon, 1962; Vervalin, 1962) and others with discipline (Amabile, 1989; Dacey, 1989).

Several traits, however, appear frequently and consistently throughout the "creative personality" literature to form a picture of the most consistent traits of the creative individual.

Emotional excitability. Creative individuals are frequently and consistently cited to be more highly emotional or "excitable" than non-creative peers (Gough & Domino, 1970; Piechowski, 1986; Scheier, 1965; Silverman, 1995, p.11; Vervalin, 1962),

Individualism or nonconformity. A disposition towards unique thought or behavior despite external norms such as "individualism" (Albert & Runco, 1989; Barron, 1953; Halpin, Halpin & Torrance, 1973; Helson, 1996; Vervalin, 1962), "nonconformity" (Barron, 1953; Feist, 1998; Goetzels, 1978; Mackinnon, 1965), or the appearance of "deviance" or "rebellion" (Barron, 1955; Feist, 1998; Lim & Plucker, 2001; Mackinnon, 1965),

Social unpopularity. Social alienation, if not the socially significant affect of androgyny, manifest as dominant behavior among girls or effeminate behavior among boys (Dacey, 1989; Dellas & Gaier, 1970; Feist, 1998; Halpin, Halpin & Torrance, 1973; Helson, 1966; Scheier, 1965),

Category of "openness." Several terms appear in creative personality literature that may echo the FFM's "openness to experience" such as tolerance for ambiguity (Amabile, 1989; Rogers, 1954; Scherbakova, 2010, p. 389; Stein, 1953, 1963; Sternberg, 1988), resistance to premature closure (Guilford, 1950, p. 453; Selby, Shaw & Houtz, 2005), flexibility (Cheung & Leung, 2014; Dacey, 1989; Guilford, 1950, p. 452; Runco, 2004; Vervalin, 1962) or tolerance for risk (Amabile, 1989; Renzulli, Systma & Berman, 2000; Sagone & Caroli, 2013; Wickes and Ward, 2006), all indicating a particular disposition towards remaining "open" to unfamiliar experiences.

Category of "search orientation." Although the term "search orientation" is not explicitly mentioned in creativity literature, if understood as a construct of the personal drive to discover more than is externally provided, terms in creativity literature also reflect a similar construct. Such terms include curiosity or inquisitiveness (Hollingworth, 1942; Krueger, 1978; Sagone & Caroli, 2013; Wickes & Ward, 2006), preference for complexity (Barron, 1953, 1955; Guilford, 1950, p. 453; Sagone & Caroli, 2013), and intrinsic motivation (Amabile, 1996; Helson, 1996; Terman, 1954),

Summary of creative personality traits. In sum, from a brief review of creative personality literature, traits appearing most with both frequency and consistency appear to be inclinations towards individuality, nonconformity, searching, openness to

experience, negative social valence, and emotional "excitability."

Spiritual Personality. Within spirituality literature, some research suggests that an interest in "spirituality" may in fact be based on personality (Piedmont, 1999; Saraglou, 2002; Saucier, 2006). Even within orthodox Jewish scholarship, Rabbi Aaron Lichtenstein clarifies that the word "spiritual" may be applied to a person who exhibits more "spiritual-type" trait-like behavior (Lichtenstein, 2005). Towards this end, studies show that heritable, inborn traits lead to an inclination towards either traditional, authoritarian models of religion, or towards an untethered, independent search for meaning (D'Onofrio, Eaves, Murrelle, Maes, & Spilka, 1999; Emmons, 2000; Piedmont, 1999; Saucier, 2006; Miller & Barker, 2016; Waller, Kojetin, Bouchard, Lykken, & Tellegen, 1990).

Consideration of spirituality as a cognitive intelligence independent of IQ has been suggested (Emmons, 2000; Piedmont, 1999). In 2000, the *International Journal for the Psychology of Religion* published a special edition devoted to the viability of the "spiritual intelligence" construct. Robert Emmons (2000) proposed spirituality as a set of competencies and abilities that qualify as "intelligence," but found himself defending a minority opinion against Howard Gardner and others (Gardner, 2000; Kwilecki, 2000; Mayer, 2000). Basing his theory on previous research, Emmons suggested spirituality as the mental ability to focus, cultivate heightened awareness or enter into a state of contemplative prayer (Walsh & Vaughan, 1993), or the capacity that enables a person to sense, empathize and connect deeply with others (Piedmont, 1999). Although Gardner claimed that the field was too young to draw final conclusions, Emmons' colleagues agreed to consider spirituality as a capability or consciousness (Gardner, 2000; Mayer,

2000), and many have conceded that the construct of spirituality gives the appearance of a normally distributed trait that some individuals possess more than others, and that eventually – once properly defined – can also be measured (Eynsenck, 1993).

Areas of overlap

Implicit belief that creativity and spirituality are related. The fields of creativity and spirituality have developed independently, and a link between the two has yet to be directly addressed in empirical literature. Implicit beliefs, however, have led to the articulation of a link between the two constructs or combination of terms such as "creative-spiritual" or "spirituality/creativity" (Roy, 2000; Schmidt, 1995; Sinha & Rosenberg, 2013). Within each field independently, traces of the influence of one construct on the other are cited, such as the use of creativity to foster spirituality (Beaird, 2006; Buchanan, 2008; Diltz, 2005; Green, 1999; Guarino, 2012; Keener-Wink, 1993; Kelly, 2006; Northcott, 2005; Nusholtz, 2004; Sakaue-Rowan, 1991) or the engagement of "spiritual" practices to foster creativity and the arts (Beaird, 2006; Damianakis, 2007; Martin, 2007; Surya Das, 2004).

Within literature describing both creative personality as well as research on the traits characterizing a "spiritual" nature, evidence reveals a parallel between the two constructs in a disposition or set of traits common to both.

Cognitive and behavioral traits. Traits appearing most consistently in the "creative" personality literature also surface in literature describing the individual inclined towards "spirituality."

In the research of Saucier and Skrzypinska (2006) identifying traits of the

"Spiritual" individual, results indicate overlap with the areas of:

i. Inquisitiveness

ii. Openness to experience

iii. Individualism and nonconformity

iv. Negative social affect

In addition to this study, further research indicates traits of inquisitiveness (Goldberg, Pelcovitz & Rosenberg, 2011; Shafranske & Gorsuch, 1984), openness to experience (Johnstone, 2012; Saraglou & Muñoz-García, 2008), tendencies similar to the drive for individualism such as the need for ownership and empowerment, and even negative social valence (Goldberg, Pelcovitz & Rosenberg, 2011).

Emotional connection. In regard to the creative trait of emotional intensity, much evidence in spirituality literature is found if the emotionality construct can be understood as the desire for "connection." Zinnbauer clarifies that use of the term "connection" used in spirituality literature indicates the experience of "feeling" close (Zinnbauer et al, 1997), implying that the term "connectedness" may indicate the desire for (or attainment of) *emotional* connection.

Frequently attributed to "spirituality" is the drive to experience connection (Chiu et al, 2004; Cook, 2004; Dyson, Cobb & Forman, 1997; Emmons, 1999, p. 877; Fisher, 1998; Goldberg, Pelcovitz & Rosenberg, 2011; Gomez & Fisher, 2003; Hamer, 2004; Hungelman, 1985; Johnstone, 2012; Meezenbroek et al, 2012; Reed, 1992; Soeken & Carson, 1987). A recent analysis comparing the most widely used measures of spirituality suggests that *the experience of connectedness is the single most significant "spiritual*

construct" (Johnstone, 2012).

"Loss of self" construct as absorption or flow. A final construct which may apply both to those considered creative or spiritual appears infrequently, but consistently in both spirituality and creativity literature. The construct might be described as the propensity to lose one's self, or one's conscious sense of time and place, in the engagement of something meaningful, whether an activity or cause. In spirituality literature this construct appears as the term "absorption," described as "self-forgetfulness" in the process of mental engagement with a task (Hamer, 2004; Johnstone, 2012; Saucier & Skrzypinska, 2006). In creativity literature, while the terms "absorption" or "self-forgetfulness" themselves do not appear, the notion of "flow," described as a fully absorbed mental state for creative work (Csikszentmihaly, 1996) may reflect a similar construct.

Conclusion. While the constructs of "spirituality" and "creativity" may not be identical, areas of significant overlap indicate that the individual exhibiting traits most consistent with "creative" personality may also possess a natural disposition towards spirituality.

Environmental Context

The impact of environment on creative achievement. Most creativity theories do converge on the importance of the external environment: regardless of an individual's inborn talent, domain expertise, or creative thinking skills, the social environment and conditions under which he or she works can significantly increase or decrease the level of

creativity produced (Amabile, 1996; Gagne, 2006; Runco, 1988; Scheier, 1965; Scherbakova, 2010, p. 390; Selby, Shaw & Houtz, 2005, p. 306; Sternberg, 2006; Walberg et al, 2004; Wallach & Kogan, 1965). Environments or programs especially designed to support the development of talent have significant positive impact on gifted students' achievement (Gagne, 2006; Lubinski, Benbow & Kell, 2014; Terman, 1954), and the right support can cultivate creativity for all students (Amabile, 1996; Runco, 2008).

Similarly, however, an unsupportive environment can impact creativity, in some cases so severely that the urge to express it can be permanently suppressed. "Creative Mortification" refers to the loss of one's willingness to pursue a particular creative aspiration following a negative performance outcome such as embarrassment (Beghetto, 2013, 2014). Examples of "mortifying" factors could be peer pressure to conform or shame experienced if a contribution is dismissed during classroom discussion (Amabile, 1996; Beghetto, 2014). The loss is not that of innate ability, but simply of the will to continue creating or developing an innate ability (Beghetto, 2014; Hong & Milgram, 2007), which in turn leads to the loss of future work that could have been achieved (Beghetto, 2014).

Based on the theory of "trait activation," however, in most cases achievement outcome is impacted by the environment in combination with a person's natural disposition (Batey & Furnham 2006; George & Zhou, 2001; Murray, 1938; Selby, Shaw & Houtz, 2005, p. 306; Sung & Choi, 2009). For example, studies concluded that creativity can be more likely obstructed in an unsupportive environment for those with high "conscientiousness," but enhanced in a supportive environment for those with high

"openness to experience" (George & Zhou, 2001; Sung & Choi, 2009). And as can be observed in the range of adult achievement outcomes of child prodigies, factors other than talent alone can influence lifetime achievement (Feldman, 2004).

Environmental factors that promote or inhibit creativity are addressed in creativity literature (Amabile, 1996; Batey, 2012; Goertzel & Goertzel, 1978; Piechowski & Colangelo, 2006; Scherbakova, 2010; Shalley & Gilson, 2004; Simonton, 1976), but will be outlined briefly below.

Environmental conditions that support creativity. Scholars agree that creativity is fostered in an environment that supports and rewards creative ideas, whether the support is physical or psychological (Amabile, 1996; Runco, 2004; Sternberg, 2006; Terman 1954). Psychological support may involve encouragement from a teacher, peers, or overall culture (Amabile, 1996; Goertzel & Goertzel, 1978, p. 336-338; Runco, 2004), or an environment in which exploration and mistakes are safe (Rogers, 1954; Selby, Shaw & Houtz, 2005), while physical support involves technical resources for creative work such as adequate tools, training, or role models providing patterns of behavior to imitate (Amabile, 1996, p. 228; Batey & Furnham 2006; Runco, 2004, p. 663; Scherbakova, 2010; Selby, Shaw & Houtz, 2005)

Also important are the resources of time and space affording opportunity to explore, such as periods of isolation with freedom to think, read, compose or experiment (Goertzel & Goertzel, 1978, p. 336-338; Rogers, 1954; Runco, 2004, p. 662; Selby, Shaw & Houtz, 2005). In tests of divergent thinking, more original responses occur later in a response set (Mednick, 1962; Runco, 1988), and early creativity scholar Frank Barron

proposed that "the unusualness of a response may be considered a function of the freedom of the organism, in that freedom increases the range of possible responses in a situation, thus the ability to respond in an original manner will be greatest when freedom is greatest" (Barron, 1955, p. 484).

In particular, the condition of "autonomy" is uniquely helpful for fostering creativity (Amabile, 1996, p. 177; Runco, 2004), such as the option for choice in task engagement (Amabile, 1996; p. 249-252; Gu et al. 2016). Teacher beliefs about autonomy had significant positive correlation with student curiosity, desire for challenge, desire for mastery and intrinsic motivation (Amabile, 1996), and students' perceptions of autonomy correlate positively with intrinsic motivation and creativity (Picariello, 1994). According to Barron, originality flourishes where suppression of ideas is at a minimum and some measure of disintegration is tolerable in the interest of a final higher level of integration (Barron, 1955, p. 484).

Last, providing sufficient challenge can foster creativity (Amabile, 1996; Runco, 2004; Scherbakova, 2010; Selby, Shaw & Houtz, 2005). While scholars debate the most effective personal mood in which creative work flourishes, suggesting either a requisite state of angst (Rollins and Calder, 1975) or of joy (Csikszentmihaly, 1996), most agree that an environment should at minimum be "stimulating" (Runco, 2004; p.663).

Environmental conditions that hinder creativity. Not surprisingly, the opposite conditions have been found to hinder creativity. Creativity can be suppressed through a lack of psychological support such as apathy towards a project or accomplishments, lack of respect for originality or innovation, a culture that enables criticism of new ideas,

negative feedback, or especially the feeling that one's well-being is threatened (Amabile, 1996; p. 232; Amabile & Gryskiewicz, 1989; Runco, 2004; Sternberg, 2006, p. 90, Terman, 1954). Or, creativity can be handicapped by Insufficient physical resources (Amabile, 1996, p. 232; Amabile & Gryskiewicz, 1989; Runco, 2004).

Characterized by the opposite of freedom and autonomy, an environment limiting creativity may exhibit forms of constraint such as a bureaucratic administration structure, lack of time, an overemphasis on the status quo, a teacher or administrator who controls too tightly, lack of autonomy over one's work or ideas, constrained choice in task engagement, avoidance of risks or an unwillingness to change (Amabile, 1996; Runco, 2004). Creative inhibition can be further caused by psychological constriction such as stress, unrealistic expectations, or a focus on external evaluation (Amabile, 1996, p. 232; Rollins and Calder 1975; Runco, 2004), or from the academic pressure to provide only one correct answer (Runco, 2004).

Social pressure to conform can hinder creativity by reducing one's willingness to take risks in exploring new paths (Amabile, 1996, p. 250; Torrance, 1967, 1968). The "4th grade slump," a 45-60% likely decrease in creativity at the fourth grade level, may be caused by the increased tendencies in children to conform with peers during this developmental stage (Torrance, 1968). Students who feel themselves to be a "minority of one" in class or fear ridicule for speaking up learn the unvoiced lesson that their differences are bad (Torrance, 1962) and may even lose self-esteem or their desire to create (Beghetto, 2014). For any student, negative self-concept can lead to underachievement in general (Whitmore, 1980, p. 178).

Additional environmental factors impacting creativity. Of all the social and environmental factors influencing creativity, most can be found in the immediate classroom setting (Amabile, 1996, p. 203; Wallach & Kogan, 1965), and teacher perspectives in particular are important to fostering or suppressing creativity (Amabile, 1996; Cheung & Leung, 2014; Runco, 1991, p.187). Teachers may inadvertently shape convergent thinking by giving attention and other reinforcement to students with the correct answer (Runco, 1991, p. 188). Those who exert a high level of control foster lower levels of intrinsic motivation in students than do teachers who encourage student self-determination and self-control (Amabile, 1996, p. 253).

Cultural influences may also make individuals more or less likely to proffer unusual ideas based on the kinds of excellence valued by particular culture (Batey & Furnham, 2006, p. 382; Lim & Plucker, 2001; Torrance, 1984; Wickes & Ward, 2006), and some evidence points to distinct gender challenges for women (Reis & Hebert, 2008; Helson, 1999). Current literature offers very little research on cultural differences influencing creativity (Batey & Furnham 2006; p. 382).

While some scales have been developed to measure the environmental conditions impacting creativity (Amabile & Gryskiewicz, 1989; Runco, 2017), a scale designed particularly for the K-12 classroom has not yet been created.

Environmental factors relating to spirituality. Even less research exists on the environmental conditions that inhibit or promote spiritual experience or the development of spirituality. This may be due to lack of consensus in defining the construct (Hill et al, 2000; Hyman & Handal, 2006; Miller & Thoresen 2003; Moberg, 2002; Schlehofer et al,

2008; Zinnbauer & Pargament, 2005; Zinnbauer, Pargament & Scott, 1999). Although research of the SEARCH Institute has produced strong evidence to support the positive impact of spiritual development on youth well-being (Benson et al, 2012; Scales et al, 2014), even SEARCH has not developed criteria for measuring the environmental context for the conditions that would foster this positive development.

The RUACH (Religious Understanding In Adolescent Children) project of Yeshiva University comes closest to the development of criteria for measurement in its discovery of environmental factors that aid or inhibit a personal connection with religion (Goldberg, Pelcovitz & Rosenberg, 2011). Authors propose what they call "connectors" and "alienators" within an environmental context that might enable or prevent a positive spiritual experience. While not an empirically tested measurement, the RUACH project offers qualitative research that may be used to form a "spiritual environment assessment."

Additionally, although the work of Saucier & Skrzypinska (2006) focuses on identifying traits in an individual aligned with constructs of "Tradition-Oriented Religiousness" or "Subjective Spirituality," upon further development, their work might be used as the foundation of constructs "TR" and "SS" that can be applied to an environment as well as to a person.   For example, tradition-oriented religiousness is highly associated with traditionalism, favors conformity, norms, compliance, and adherence to authority, has a high reliance on tradition-hallowed sources of authority with shared practices (rituals) and rules for controlling social behavior, and highly correlates with "Right Wing Authoritarianism" (Saucier, 2000; Saucier & Skrzypinska, 2006). Although it requires adaptation, the Saucier & Skrzypinska model may be a strong foundation for assessment of environmental conditions fostering or impeding

spirituality as well.

Conclusion to Literature Review

While debate, controversy and lack of consensus may persist in any subject of an intangible nature, enough literature exists in both the fields of "creativity" and "spirituality" to formulate understanding of the constructs, and even to support conception of the constructs as normally distributed traits. Further, a set of similar traits found in both creativity and spirituality literature point to the possibility that an individual identified as "creative" may also identify as highly "spiritual." Last, the work of Teresa Amabile clarifies the environmental conditions that can foster or obstruct creativity, and the work of RUACH helps us better understand conditions that alienate or connect students to spirituality.

Chapter Four, Research Questions and Hypotheses

Overall Research Questions

This study is driven by two guiding questions and research interests. The first is whether the student demonstrating talent in the arts also possesses an above average disposition towards creativity or spirituality. The second is whether this student has experienced above average challenges to their well-being in Orthodox schooling.

Hypotheses

First research question. Are high creative thinking ability and a spiritual disposition found within the same person who also possesses artistic ability.

Hypothesis one. This study hypothesizes that a high positive correlation exists between demonstrated talent in the arts and divergent thinking ability.

Hypothesis two. This study hypothesizes that a high positive correlation exists between demonstrated talent in the arts and an inclination towards "spirituality."

Hypothesis three. This study hypothesizes that a high positive correlation exists between divergent thinking ability and an inclination towards "spirituality."

Second research question. How does a creatively gifted student experience support for creativity, spirituality and artistic expression in Orthodox Jewish schooling

Hypothesis four.   This study hypothesizes that a negative correlation exists between an artistic-creative-spiritual student and his or her experience of support for creativity in Orthodox schooling.

Hypothesis five. This study hypothesizes that a negative correlation exists between the highly artistic-creative-spiritual student and his or her experience of support for spirituality in Orthodox schooling.

Hypothesis six.   This study hypothesizes that an intervention of strong validation in areas of artistic expression, creativity or spirituality will counter the negative impact of weak environmental support in Orthodox schooling.   Interventions can be in the form of an extracurricular activity, supportive parenting, or a supportive teacher or mentor figure.

Sub-Questions

Domain categories.   Regression analysis will be conducted to determine if any differences exist between art domains as delineated by Shelley Carson (2005), categories of performance (music, dance, acting), creation (writing, visual art, directing, filmmaking), or "other," and also between interventions of an extracurricular program, supportive parenting, or a supportive teacher-mentor.

Interventions.   If possible, interventions of extracurricular arts training programs, supportive teachers or supportive parents will be analyzed for their impact on a students' perceived schooling experience.

Hashkafa.   If possible, analysis will be done to distinguish between subjects' religious philosophical outlooks, predominant distinctions being Modern Orthodox,

Litvish and Chabad, with a negligible portion from the Chassidic community.

Break-down of Research Questions

Research is conducted according to the following guiding questions:

1. Do artistically gifted Orthodox Jewish students exhibit high levels of divergent thinking? If so, is their score impacted by their art domain?

2. Do artistically gifted Orthodox Jewish students exhibit a "spiritual disposition"? If so, is their spirituality score impacted by their art domain?

3. Does high creative ideation correlate with a negative experience in Orthodox schooling? If so, is this negative experience in the area of

   a. The expression of divergent thinking

   b. The expression of spirituality

   c. The expression of artistic talent

4. Does high spiritual sensitivity correlate with a negative experience in Orthodox schooling? If so, is this negative experience in the area of

   a. The expression of divergent thinking

   b. The expression of spirituality

   c. The expression of artistic talent

5. Are there any interventions that have reversed the schooling experience from negative to positive? If so, have they been in the area of

    a. The expression of divergent thinking

    b. The expression of spirituality

    c. The expression of artistic talent

6. Has the intervention been in the form of

    a. An extra-curricular program

    b. Supportive parenting

    c. A specific supportive teacher or mentor

In sum, this study aims to discover whether artistically gifted individuals are also naturally disposed towards creative ideation or towards spirituality, and to understand creative students' Orthodox Jewish schooling experience as relates to their expressions of creativity, spirituality and artistic expression.

Chapter Five, Theoretical Framework

Introduction: Conception of Terms

In general, the subjects central to this study lack consensus in definition and can therefore be considered "fuzzy" concepts. A fuzzy concept is a concept of which the content, value, or boundaries of application can vary according to context or conditions, instead of being fixed once and for all[7]. In both creativity and spirituality literature, semantics seem to obstruct understanding of terms in that specific words can be burdened by controversial associations, personal beliefs, and misapplication. To avoid these problems, this study therefore views "creativity" and "spirituality" not as terms, but as constructs. According to the Oxford Dictionary, a construct is an idea or theory containing various conceptual elements. Thus, in this study, both "creativity" and "spirituality" are understood as constructs clarified by their descriptions, or shared sets of "various conceptual elements," rather than only by terms even as used in literature.

The Construct of "Creativity" in Application to a Person

The field continues to face a lack of consensus on the definition of the word "creativity." Primary competing definitions will be summarized to provide understanding of the term's use in this study.

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[7] http://dictionary.sensagent.com/Fuzzy%20concept/en-en/

Creative achievement verses creative potential

One word with two meanings. One significant challenge in defining the construct of "creativity" is that from decades of literature, two constructs have emerged seemingly associated with the same word, "creative." The first understanding of the term is as a description of a product or idea, while the second uses the same term to describe a person.

The standard definition for "creativity" found in empirical literature dating to the 1960s appears to be "new and useful." (Runco and Jaeger, 2012). This definition, also used in most common dictionaries, can apply easily to a product or idea, but less easily to a person; according to this conception, a person would be considered "creative" indirectly, as one who has generated a creative product. In application to a person, no distinction seems to be made between use of the term according to the standard "new and useful" definition, and reference to a personal attribute independent of a product achieved.

This may be due to the continued lack of consensus on basic definitions and valid measurement within the voluminous body of literature addressing the creative "person" and the mental process underpinning the creative act. While the TTCT (Torrance Tests of Creative Thinking) is employed to identify the creativity "quotient" adequate for admission to gifted programming (Cramond et al, 2005; Kim, 2006), this evidence has not resolved disagreement among theorists who persist in their own vision of the construct of creativity in application to a person. Scholars continue to debate the overlap of this construct with both general intelligence and personality. This long standing

mystery may yet be resolved through advances in technology revealing "creative"

functionality in the brain (Abraham, 2013; De Dreu et al, 2014; Jung et al, 2010, 2013;

Reuter et al, 2005). Until then, however, the term in application to a person's inborn trait

or cognitive ability has no unanimously accepted definition to compete against the

"standard" one describing a product measurable by social consensus.

The current study aims to resolve this problem by adding additional terms to the

word "creative" to clarify the context in which the word is applied.

Product creativity as creative achievement. When evaluating a product, the

determination of consensually agreed standards creates objectivity that can make

"creativity" more easily measurable. The principle that "creative" – in application to a

product – can be identified by the dual qualities of "novel" and "useful" became standard

in the 1960s (Barron, 1955; Batey, 2012; Runco & Jaeger, 2012; Stein, 1953). This

definition gained even more widespread acceptance and acknowledgment as *the*

"standard definition" (Mumford, 2003; Runco & Jaeger, 2012), as creativity theories of

the 1980s also suggested the measurement of creativity by product rather than by

personal attribute (Amabile, 1982, 1983; Csikszentmihaly, 1988, 1999; Sternberg &

Lubart, 1991, 1992).

However, as standard as the definition may be in application to a product, since a

person cannot be "new and useful," it is clear that this definition of creativity applies to

the qualities of a product alone and that the standard definition has inadvertently

operationalized the word "creativity" into *creative achievement*. Creativity is thus

understood to be, and assessed, as the creative quality of a product, the "creative person"

only an individual who produced an objectively identifiable creative product (Batey, 2012).

While the "new and useful" definition does help raters evaluate a creative product, identifying the creativity of a person by proxy undermines the entire body of literature conceiving of "creativity" as a normally distributed trait (Eysenck, 1996; Guilford, 1950; Runco, 1991, 2004; Schier, 1965; Torrance, 1967; Wallach & Kogan, 1965). Ironically, it is also surprising that the definition is embraced by such "press" theorists as Csikszentmihaly and Amabile, as it directly contradicts their research that an environment can alter the outcome of creative work (Amabile, 1996; Csikszentmihaly, 1988, 1999): how can work produced in an environment suppressing creativity be evaluated according to the same standards applied to work emerging from a supportive context?

Trait creativity as creative potential. While an affective or cognitive trait may be more difficult to measure than a tangible product – especially a trait plagued by decades of controversy over its very nature – research does reveal strong evidence of creativity as a "normally distributed" trait or ability in both "person" and "process" areas of creativity literature (Eysenck, 1993; Halpin, Halpin & Torrance, 1973; Runco, 1991; Runco & Acar, 2012; Scheier, 1965). This approach understands the creativity of a person not by proxy from an evaluation of his achievements, but as an inborn, measurable trait or ability.

Although the particular distinction between "creativity" as applied to a person or product seems absent from creativity literature, a distinction that *has* been made often

between two conceptions of "creativity" is that of "eminent" or "big" creativity, the undisputed quality work of famed creators, and "everyday" (or "little" creativity), minor manifestations of creative thinking at home or work (Kaufman & Beghetto, 2009; Runco, 2014). This distinction finds acceptance among laity and has even led to further categorical divisions of "pro" creativity and "mini" creativity (Kaufman & Beghetto, 2009).

However, leading creativity scholar Mark Runco argues that both "eminent" and "everyday" creativity are based on the *same cognitive process*: the differences between them come from things that occur after the creative act (Runco, 2014). Further, although eminence has often been considered the a plausible sign of "creativity," its achievement is close to only two individuals per million (Guilford, 1950, p. 444), and can involve factors related to neither natural ability nor product quality, such as socioeconomic or cultural influences (Amabile, 1996; Goertzel & Goertzel, 1978). Most significantly, however, for individuals such as students and children in early stages of skill development, the "product approach" suggests the evaluation of product quality before professional caliber quality has even had the opportunity to develop.

Despite these considerations as well as the embrace of creativity as an inborn trait or ability by both the sub-fields of creative "person" and "process," evolution within creativity literature overall seems to have redefined the "trait" conception of creativity as the notion of creative *potential* rather than as creativity itself. Overwhelming field support for the standard definition of creativity has necessitated the reduction of the cognitive process or set of traits identifiable as "creative" merely to indicators of the *potential* to be creative. In light of the requirements of the current study, however,

evaluating both adolescent subjects as well as subjects working within an environment hypothesized to be unsupportive of creativity, it is distinctly *creativity as an inborn trait* – or what is known in the field as *creative potential* that will be identified and assessed as "creativity."

Distinction of the creative process

The process of ideation. Despite reduction of the mental process behind creativity to "creative potential," decades of research on the mechanics of this process remain intact. Terms interchanged to denote this process include "creative thinking," "divergent thinking," and "creative ideation" (Guilford, 1967; O'Neal, Paek & Runco, 2015; Plucker, Runco & Lim, 2006; Runco, 1991; Runco & Acar, 2012; Zegas, 1976).

Early creativity research posited the progression of an idea through stages (Wallas, 1926), which has permitted convergent, or analytical, evaluative thinking to become an accepted stage in the creative thinking process (Batey & Furnham 2006; Guilford, 1950; Merrotsy, 2013; Runco, 2004): creators do not only come up with "wild" ideas, but also useful ones. However, it is not the analytical stage, but specifically the stage of "idea generation" that has been identified as most pertinent to distinguishing creative potential (Guilford, 1950; Martindale & Hasenfus, 1978; Runco, 2004).

Ideation, the process of coming up with new ideas, has traditionally been measured by tests of divergent thinking (Runco, 1986). Within research on divergent thinking, however, debate exists regarding the precise cognitive skill enabling ideation, and thus, how it can be best measured.

Fluency and originality / remoteness. The two primary approaches to

understanding the cognitive process disagree on whether creative output should be measured by the sheer volume or *quantity* of responses to a given prompt, termed "fluency" (Guilford, 1950; Hocevar, 1980; Milgram et al, 1978) or by the *quality* of any one response – the uniqueness or innovative nature of any one answer, termed "remoteness" or "originality" (Barron, 1955; Guilford, 1950; Hong, Milgram & Gorsky, 1995; Koestler, 1964; Mednick, 1962; Runco & Jaeger 2012).

Both approaches surfaced in early creativity research in studies suggesting "fluency" (Galton, 1869; Hargreaves 1927) or "remoteness" (Dearborn, 1898; James, 1880; Poincare, 1913), but in the work of Guilford's "Structure of the Intellect," both were adopted as equally important components in his proposed set of creative thinking abilities (Guilford, 1950, 1967) and subsequently adopted as primary areas of ability evaluated by the Torrance Tests of Creative Thinking (Khatena, 1982; Torrance 1962-84) still in use for gifted student evaluation today.

The question of discriminant validity between the two abilities has been raised: are they two separate skills? Research suggests that for high scoring original thinkers, voluminous productivity is typical (Barron, 1955; Runco, 1991). However, while some abilities included in the Guilford set do evidence weaker discriminant validity from fluency (Hocevar, 1979; Runco, 1986), the idea of "remoteness," the capacity to produce responses which are unusual (yet useful), persists as a unique identifier of creative thinking (Runco & Albert 1985; Runco & Jaeger 2012).

Flexibility and other factors of measurement. Additional abilities that have been proposed and included in the widely used Torrance Tests also include resistance to early

closure and set breaking (Amabile, 1996; Torrance & Hall, 1980). "Resistance to closure" has been defined as the ability to keep options open, suspend judgment, hold multiple ideas without needing resolution, deal with complexity or confusion, and the capacity to tolerate ambiguity (Amabile, 1983; Guilford, 1950, p. 453; Merrotsy, 2013; Stein, 1953). Barron explains that this ability aids creative production in that "organization together with complexity generates freedom: the more complex the level of integration, the greater is the repertoire of adaptive responses" (Barron, 1955, p. 484). The ability to engage in "set breaking," or the willingness to break set during problem solving, also finds support as a skill fostering creative responses (Amabile, 1983; Newell, Shaw & Simon, 1962; Weisberg 2016).

From the author's perspective, it seems that both the attributes of "set breaking" and "resistance to closure" have been merged into a factor included in many divergent thinking tests termed "Flexibility."

Distinction from IQ (general intelligence). Distinguishing the various abilities of "divergent" production from general intelligence encounters resistance due to various confounding factors. Fluid intelligence, or the speed at which knowledge is retrieved, can impact "fluency," the volume of responses produced (Batey & Furnham 2006; Nussbaum & Silvia, 2011), and crystallized intelligence, the capacity for retained knowledge and memory may influence "original" responses due to the availability of a larger pool of stored information (Batey & Furnham 2006; Barron, 1955; Cho et al, 2010; Mednick, 1962). Thus, both fluid and crystallized intelligence contribute to greater thinking ability, creative or otherwise.

However, research in this field has discovered the "threshold effect." Evidence shows that general intellect does influence creativity only until a "threshold" IQ of approximately 120, with major variance evident in creativity scores above 120 (Batey & Furnham 2006; Feist & Barron, 2003).

In some cases, high intellect can even harm creativity, when experts with extremely high levels of knowledge overlook new options due to reliance on established knowledge, which Robert Sternberg has termed "entrenchment" (Runco, 2004; Sternberg, 1982). Academic achievement in particular shows no correlation, if not a negative correlation, with creativity (Guilford, 1950; Halpin, Halpin & Torrance, 1973; Scherbakova, 2010). Ironically, students scoring high in "creativity" but below the "gifted" IQ of 130 achieve equal if not *more* post high school degrees, honors, and eminence as do students of high IQ alone (Getzel & Jackson, 1962; Torrance 1962, 1984).

Over-inclusive, associative thinking. One suggestion for the mechanism of creative thought independent of intelligence is the notion of "over-inclusive" thinking (Amabile, 1996; Merrotsy, 2013; Runco, 2004; Sternberg & Lubart, 1991), where the use of wide rather than narrow categories for classification of ideas can allow the person to see connections that might not be seen by others (Amabile, 1996). Others suggest that creative ability stems from the unconscious, which enables "leaps" that can look like remote associations and appear to be creative (Weisberg, 2006). The brain function leading to a large number of associations has also been described as "attention deployment" or "defocused attention" (Kasof, 1997; Martindale & Hasenfus, 1978; Runco, 2004), possibly confounding creativity with diagnoses of ADD. Use of new

technology has led to observations of the brain indicating weakened inhibitors (Jung et al, 2013), which also confirms previous research (Martindale, 1981, 1989, 1999), or an increased presence of either dopamine (Mayseless et al, 2013; Takeuchi, 2010) or oxytocin (De Dreu et al, 2014).

In some research, creativity is not only unrelated to intelligence, but may emerge from cell deficiency triggering a metabolic need (Diamond et al 1985; Runco, 2004) or be considered a "syndrome" (Mumford & Gustafson, 1988). Others view creative thinking as a strength resulting from an "open system with minimal entropy and unencumbered by excessive homeostatic mechanisms" (Stein 1963 p 225). Mednick describes the process as the ability to make associations (Mednick, 1962), and Koestler describes it as "bisociative" (Koestler, 1964), associating two otherwise incompatible frames of reference. Whether a deficiency or strength, empirical evidence supports a unique cognitive functioning among those with high divergent thinking scores different than the mental process of those with high IQ alone (Cho et al, 2010; Guilford, 1950, p. 448; Hong, Peng & O'Neil, 2014; Wallach & Kogan, 1965).

Current status of "ideation" construct. Tests of Divergent Thinking, and most especially the TTCT are supported by strong evidence of validity and reliability in determining "creative potential" (Kim, 2006; Runco, 1991, 2004, 2014; Runco & Acar, 2012). An area in creativity research now receiving widespread attention is the application of creative thinking in business and problem solving (Hilt, Shalley & Zhou, 2015; Proctor, 1999; Runco, 2004; Weisberg, 2006). This new subject relies on creative thought not as a product of the subconscious or a weakening of inhibitors or focus, but a skill called "ideation" (Parkinson, 2009; Watson, 2017). This skill is considered

teachable and embraced widely, since the ability to generate an abundance of ideas which are both original and useful ideas proves a tremendous asset to the business sector.

Importantly, measuring "ideation" seems to solve the controversy raised in measuring "divergent thinking" alone: successful ideation implies the production of ideas that are both original and useful. Divergent thinking tests assess the creative *process*, and demonstrate predictive validity for creative achievement (Runco, 1991, 2013; Runco & Acar, 2012; Torrance, 1972). However, they have also received the lion's share of criticism in creativity research for their shortcomings (Piffer, 2012; Silvia, 2008; Zeng, Proctor & Salvendy, 2011).

In recent years, Mark Runco and his colleagues developed a tool to isolate and measure the construct of "ideation" rather than the previously tested construct of "divergent thinking." It retains the elements of Guilford's framework and Torrance's measurements, including items that assess all three constructs of originality, fluency, and also flexibility. Further, it also queries subjects on their ability to bring a product to completion as well, enabling evaluation of the "new and useful" quality of product outcome (O'Neal, Paek & Runco, 2015). Runco's new tool enjoys less reliability testing than do more established tests, but it does demonstrate internal psychometric integrity (Runco, Plucker & Lim, 2001), and in combination with a reliable personality scale, may be able to reinstall the cognitive ability relegated to "creative potential" to status as a full-fledged indicator of creativity.

Theoretical Framework for Spirituality

      Spirituality as connectedness or "service of the heart." This study adopts the classic distinction between the constructs of spirituality as a subjective, personally felt experience, and religion as an explicit set of practices (Allport, 1966; Allport & Ross, 1967; Cohen & Hill, 2007; Hyman & Handal, 2006; Mattis, 2000; Meezenbroek et al, 2012; Moberg 2002; Pargament, 1999; Schlehofer et al, 2008; Vaughan, 1991, p.105; Zinnbauer et al, 1997, 1999).

      Even when viewing "spirituality" from a religious Jewish perspective, the same conception is employed, albeit without use of the terms "spiritual" or "spirituality." Rather, according to a Jewish framework, this study views spirituality as the construct of "service of the heart" that most approximates the inner experience as described in reference to the construct of spirituality in empirical literature (Feldman, 2013; Maimonides (1190) Moreh Nevuchim 3:51; Weinberger, 2012).

      Despite some opinion attesting to the possibility that "spirituality" is automatically expressed through the rote performance of ritual (Sokolow, 2005; Volozhin 1824/2009), the current study rejects this theory, favoring the possibility that behavioral practice devoid of a personal, emotional connection may in fact *hinder* spiritual growth (Allport, 1966; Fromm, 1950; Margolese, 2005; Slater, 2005; Turner et al, 1995; Zinnbauer et al, 1997). Further, this study is theoretically grounded in the perspective that a personally felt connection is not only essential to reaping the benefits of religious practice (Johnstone, 2012), but also essential to religious Judaism (Albo, 15th c., Sefer HaIkkarim, Ch. 23; Maimonides, 1190, Moreh Nevuchim 3:51; Talmud Bavli Rosh

Hashana 28b, 31a; Weinberger, 2012).

This study acknowledges that ambiguity remains even in the empirical research on spirituality in defining the subjective "experience" described as spiritual (Hyman & Handal, 2006; Miller & Thoresen, 2003; Miller-Perrin & Mancuso, 2015; Moberg, 2002; Schlehofer et al, 2008). However, a majority of theorists have converged in agreement that the idea of personal "connectedness" – whether to the self, to humanity, or to a transcendent entity, best captures the nature of an experience that is "spiritual" (Benson et al, 2003; Chiu et al, 2004; Cook, 2004; Dyson et al, 1997; Emmons, 1999, p. 877; Fisher, 1998; Goldberg, Pelcovitz & Rosenberg, 2011; Gomez & Fisher, 2003, Hamer 2004; Hungelmann, 1985; Johnstone 2012; Meezenbroek et al, 2012; Reed, 1992; Roehlkepartain et al. 2005; Soeken & Carson, 1987).

Distinction between potential and achieved spirituality. As in creativity research, the field of spirituality has offered little clarity between the innate disposition to seek spirituality and the achieved outcome of "spiritual wellness."

Some definitions of spirituality include the terminology of "search for" in reference to areas of connectedness (Hill & Pargament, 2003; Miller & Thoresen, 2003), and others mention the distinct concept of "search orientation" as a unique quality of spiritual individuals (Benson et al, 2003; Roehlkepartain et al, 2005).

In light of a particular environment characterized by mandated religion, in constructing a theoretical framework for this current study, distinguishing between the search for and the attainment of spirituality holds value. This study seeks to determine the personal disposition to search, rather than evidence of achieved well-being.

Spirituality as a measurable trait or ability. Based on empirical research as well as scholarship relating to Jewish spirituality, this research relies on the theory that spirituality can be viewed and even measured as a normally distributed trait (Emmons, 2000; Eynsenk, 1993; Lichtenstein, 2005; Piedmont, 1999; Saroglou & Munoz-Garcia, 2008; Saucier & Skrzypinska, 2006).

Personality trait. While Rabbi Aaron Lichtenstein clarifies that although the word "spiritual" may be applied as an adjective to a dimension of the world in contrast to the "physical" and implies a specific space for the residence of non-physical entities, the word holds different meaning when applied to a person, rather, describing a set of traits or behaviors (Lichtenstein, 2005).

The thorough and intentional research of Piedmont (1999), Saroglou & Munoz-Garcia (2008), and Saucier & Skrzypinska (2006) finds that interest in "spirituality" is indeed linked to personality. Further research shows show that heritable, inborn traits lead to an inclination towards an untethered, independent search for meaning (D'Onofrio, Eaves, Murrelle, Maes, & Spilka, 1999; Emmons, 2000; Piedmont, 1999; Saucier, 2006; Miller & Barker, 2016; Waller, Kojetin, Bouchard, Lykken, & Tellegen, 1990).

Cognitive ability. In the *International Journal for the Psychology of Religion* (2000), Robert Emmons proposed spirituality as a set of unique competencies and abilities that qualify as an "intelligence." Basing his theory on previous research, Emmons suggested spirituality as the mental ability to cultivate heightened awareness (Walsh & Vaughan, 1993), or the capacity that enables a person to sense, empathize and connect deeply with others (Piedmont, 1999).

While this area is new in research, spirituality can be viewed as a measurable, normally distributed trait (Eynsenk, 1993).

The construct of G-d. Terms used to identify the concept of a transcendent being called "G-d" differ by religion. Just as Christianity and Islam worship a transcendent figure using terms in their own religion, so too, Jews refer to "G-d" using culture specific vocabulary. Nevertheless, the construct of "G-d" in religious Judaism parallels the construct of "G-d" as a transcendent figure and religious authority as theoretically understood by all western religions.

Even among Eastern religions or "secular but not religious" views, a dimension transcending the physical may be referred to using terminology such as "The Universe," "Nature," or "the transcendent dimension."

Thus, although word choice may differ, whether in empirical or religious contexts, this study understands the Judeo-Christian concept of a transcendent being, as well as the non-western conception of a transcendent dimension, to be references to the same construct of a 'presence' with objective truth or authority greater than any human.

Operationalized definition of spirituality. The operationalized meaning of spirituality as employed in this current study, based on the above considerations influencing its theoretical framework, will be the *search for connectedness* particularly in the areas of

a. Connectedness to self, using related terms such as search for self-understanding, meaning, purpose and personal mission,

b. Connectedness to "others" as expressed by a respect for universal humanity, considering the "other" in the sociological sense of Otherness, as one outside one's immediate religious belief system and not merely another person,

c. Connection to nature, and

d. Connectedness to the "transcendent dimension" or "divine presence" only if terms used are sufficiently neutral and not associated with a particular religion, neither Judaism nor any other.

and will be measured by subjects' disposition towards these as compared to the general population.

Theoretical Framework for Environmental Support

Environmental factors impacting creativity. In considering the construct of environmental support for creativity, this study is theoretically grounded in the research of Teresa Amabile (1996), Mark Runco (2004), and others (Goertzels, 1978; Scherbakova, 2010; Sternberg, 2006) who describe environmental conditions that most foster or hinder the development and expression of creativity.

The majority of creativity scholars agree, without opposition, that elements from an environment can significantly aid or hinder the expression of "creativity" (Amabile, 1996; Csikszentmihalyi, 1988, 1999; Gagne, 2004; Murray, 1938; Runco, 1991, 2004; Scheier, 1965; Selby, 2005; Walberg et al, 2004; Wallach & Kogan, 1965), thus this study is grounded in such a theory.

Environmental factors impacting spirituality. In considering the construct of environmental support for spirituality, this study is grounded in the research of the RUACH (Religious Understanding In Adolescent Children) Project of Yeshiva University conducted in 2011 (Goldberg, Pelcovitz & Rosenberg, 2011). The RUACH Project interviewed students from Orthodox Jewish day schools to assess the environmental factors that alienate or connect them to spirituality. Based on the qualitative research resulting from this Project, the current study has developed a scale of environmental factors that would theoretically foster spirituality by connecting students to it, or hinder spirituality, by alienating students from it.

Chapter Six, Methods

Overview

The current study combines methods of quantitative and qualitative research. Despite the claim in both creativity and spirituality fields that consensus on construct definitions remain elusive, successful scale validation studies and use of measurements in published research do provide options for valid assessment of both "creativity" and "spirituality" constructs according to existing scales.

In assessments of environmental support, the study employs quantitative measurements that have not yet been empirically validated, thus collects only qualitative data through these scales.

Finally, in order to understand nuances in students' lived experiences, the study also uses multiple choice and open ended questions to further clarify subjects' strengths in the areas of creative thinking, artistic ability, spiritual sensitivity, the school support they have received for these strengths, and any interventions they may have experienced to enrich their environmental support in these areas.

Measures validated with psychometric integrity have been selected to assess students strength in areas of

1. Creativity, through measures of

    a. Ideation ability (Runco, Lim & Plucker, 2001)

    b. Creative personality (Gough, 1979)

2. Artistic ability, through a measure of

    a.   Creative behavior (Carson et al, 2005)

3. Spiritual Disposition, through measures of

    a.   Search for meaning (Steger, 2006)

    b.   Altruism towards others (Elkins et al, 1988)

    c.   Personal connection to the "Transcendent dimension" (Elkins et al, 1988)

Measures to assess environmental support for both creativity and spirituality have not yet been empirically validated. However, scales or research frameworks do exist to form the basis of measurements that will be used in the current study. To measure support for creativity, the Creative Setting Assessment (RESC) of Mark Runco's battery of creativity tests (rCAB) designed for an academic setting has been modified to reflect language appropriate for a K-12 setting in particular and shortened for inclusion in the current battery of tests. To assess environmental support for spirituality, a new scale based on the RUACH Project's research of 2011 has been developed.

The study's independent variable is the artistic ability or interest of students, with covariates of differing skill domains primarily according to the factor structure of Shelly Carson's Creative Achievement Questionnaire (2005):

    a. Performance achievement, encompassing areas of music, dance and acting,

    b. Expressive achievement, encompassing areas of visual arts, writing and directing

    c. Scientific achievement, encompassing areas of AV technology, film editing and

baking.

The study aims to control for the following variables: age, gender, country of residence, hashkafic outlook, and religious education, retaining "artistic ability" as the only independent variable.

Dependent variables are the constructs of traits "creativity" and "spirituality" as operationalized for use in this study, as well as "environmental support for creativity" and "environmental support for spirituality."

It is hypothesized that a student with interest or ability in an arts domain will score high on both creativity and spirituality traits, and low on perceptions of environmental support.

Study Design

Although testing is conducted using a collection of scales together in one questionnaire, the study design is comprised of two parts.

Mixed method assessment of personal traits. The first section of the study is an analysis of the personal traits of subjects. This is a mixed method assessment.

T-Tests. Quantitatively, two T-tests are conducted. The independent variable for both is subjects' artistic ability, with dependent variables for each one being subjects' divergent thinking ability and subjects' disposition towards spirituality in the form of orientation to search for meaning and purpose in life.

Qualitative data. Additional traits of creative personality and further factors of spiritual disposition are assessed through scales without proven validity or reliability as well as supplementary author-generated questions.

Qualitative assessment of school experiences. To evaluate subjects' perception of their school experiences, subjects completed one scale, one modification of a scale, and several supplementary author-generated questions, all of which had not been tested for reliability or validity. Thus, data emerging from these scales was considered to be qualitative.

Participants

General information. Subjects assessed were older adolescents and young adults from the Orthodox community who have demonstrated ability in one or more art medium (music, dance, acting, visual art, writing, directing, AV technology). They are either from families in which one parent is a professional artist and independently exhibit author-observed ability in an arts medium, or they are enrolled as part of an extra-curricular, summer, or year-round Orthodox-run program involving arts training or expression.

For subjects age 11-18, both consent from parents and assent from subjects themselves were obtained. For subjects over 18, consent from subjects themselves is obtained before assessments are administered, along with agreement from institutional administration if the subject was contacted through a program.

No coercion or pressure to participate was employed: not only students, but also parents or program administrators had the right to abstain from participation, or withdraw at any point from the study, even after an assessment was completed. Personal information about subjects has been kept confidential. However, contact information has been retained in the event of a follow up study.

Specific subject participation. Participation agreement was obtained by the *Tzohar Seminary for the Arts*, a small year-round Orthodox "gap-year" (pre-college) school for students age 17-21, attracting Orthodox young adult females with proclivity to the arts, shown in Appendix C.

For subjects younger than 18, oral consent was obtained from parents regarding the participation of their children. See Appendix D for the cover letter and consent form they received.

Additional programs that were not approached for participation in the final study, but which may be willing to participate in future studies include the following:

1. Camp Tizmoret Shoshana, an Orthodox girls overnight camp for the arts, directed by Dr. Mark and Chana Singer

2. Camp Maor, an Orthodox girls overnight camp for the performing arts, directed by Sari Kahn

3. Camp HaBima, an Orthodox girls day camp for the performing arts, directed by Paula Maurer Jacobs and Miriam Sandler

4. The Jewish Center for the Performing Arts, a year-round Orthodox girls

extracurricular performance training program in Brooklyn, directed by Rivka

Nahari

Procedure

Once the study was approved by the IRB Einstein Medical Center (Appendix A),

subjects were given a link to an online version of the questionnaire. The questionnaire

consisted of various scales, each measuring one construct requiring evaluation in the

study: creative thinking, creative personality, arts ability, and spirituality according to

operationalized definitions used in the study, as well as school support for creativity and

spirituality. Following the compilation of existing scales, multiple choice and open-

ended questions conclude the questionnaire. See Appendix A for the IRB Approval Letter

and Appendix B for the Study Questionnaire.

The study was conducted with 54 students, predominantly female, over the course

of several months, from December through April in the winter and spring of 2018-2019,

through the online survey format.

Following the collection of data, responses from each subject on each survey

question were entered manually into an excel spreadsheet, and conclusions were drawn

from the observation of this data.

Due to incomplete surveys or other problems, 15 subjects were eliminated from

the final group used for quantitative evaluation, leaving 39 subjects for inferential data

assessment. However, in areas of qualitative data collection, the subject count was based

on the number of subjects who completed the section relevant for analysis.

Measurement

  The assessment tool is a compilation of several short scales to psychometrically measure the variables being assessed: creativity, spirituality, and environmental support for creativity and spirituality, as well as several open-ended questions. Together the survey can be referred to as the "Creativity and Spirituality Assessment Battery." Descriptions of each independent scale in the battery are listed below, along with any studies confirming their psychometric integrity.

  Measurement of Trait Creativity. Although empirical support does exist for measuring creativity according to either "fluency" or "originality" exclusively, leading theorists consider use of several constructs a more accurate method for the assessment of creativity (Acar & Runco, 2014; O'Neal, Pael & Runco, 2015; Runco, 1986, 1991, 2004, 2014b; Sternberg, 2006). In the current study, therefore, creativity is assessed according to several constructs and uses a collection of scales which, when combined, measure not only fluency and originality, but also flexibility, the ability to create a product, the creative personality and creative behavior / accomplishment.

  Runco Ideational Behavior Scale (RIBS) (Runco, Plucker & Lim, 2001). The Runco Ideational Behavior Scale (RIBS) is a self-report Likert measure which allows individuals to describe how frequently they produce ideas and in what situations, and what kind of ideas are produced (O'Neal, Pael & Runco, 2015). Although the Torrance Tests measure multiple divergent thinking constructs and are used more widely (Kim, 2006), they focus on the cognitive process of creative thinking alone, whereas the RIBS not only measures the three leading "process" constructs of fluency, originality and

flexibility, but also demonstrates the capacity to measure "product" as well (O'Neal, Pael & Runco, 2015). Aside from its ease of use, RIBS also accommodates theorists who adopt the "product" approach by including a valid measurement of product within his scale. Further, the "product" measured is not domain specific, but the criterion of *creative ideation itself*, applicable in both arts and science domains and theoretically not confounded by either fluid or crystalized intelligence.

RIBS questions measure the ability subjects have in developing novel, useful ideas. Sample questions include "I think about ideas more often than most people," "I am able to think up answers to problems that haven't already been figured out," and "Friends ask me to help them think of ideas and solutions" to assess both basic ability as well as external acceptance of subjects' creative thinking ability. Some questions also reflect values or aspects of personality as well, such as "It is important to be able to think of many possibilities," "I enjoy having leeway in the things I do and room to make up my own mind," and "Some people might think me scatterbrained or absentminded because I think about a variety of things at once."

Two questions (11 and 12), were removed from the questionnaire for religious subjects, leaving 21 questions included. According to email correspondence with Dr. Runco, eliminating scale items does not impact the scoring of the test.

When comparing the study scores to a control group, however, one additional question was eliminated, as it had been modified for the current study: although only one word had been changed, the modification may have altered the meaning of the question enough to impact subjects' responses.

Gough Creative Personality Checklist (Gough, 1979). Other than psychometrics or product ratings, creativity has frequently been measured according to personality or behavior inventories (Amabile, 1996; Batey, 2012; Eynsenk, 1996; Kaufman, Plucker & Baer, 2008; Silvia et al, 2012). In fact, the trait approach to creativity measurement has been a dominant paradigm adopted by many researchers, who examine personality traits as the primary method of evaluating creativity (Batey, 2012). The Gough Checklist, created as a creative personality subscale of the general personality Adjective Checklist, has been widely used in creativity research since inception.

Both the RIBS and Gough scales employ the self-rating method of evaluation, a popular and reliable method in creativity research (Batey, 2012; Furnham et al., 2008; Silvia, 2008) and possibly even more objective than external ratings, remaining ''independent of the subjective judgment of the particular examiner'' (Anastasi & Urbina, 1997, p. 7).

Measurement of arts interest or ability

Candidacy for the study. Subjects were only selected for participation if they met certain qualifications, one of which was an externally observed pronounced ability in the arts, or the affiliation with an established arts educational program, vetting them for arts ability prior to participation in the study.

Confirmation of arts ability, however, was conducted in the study itself through use of scales measuring creative interests and achievement.

Creative Achievement Scale (Carson, 2006). Assessment of arts ability was collected through the *CAQ*, which asks subjects to indicate areas of creative achievement

in which they excel, indicating both domain level as well as level of achievement. This scale exhibits psychometric integrity with test–retest reliability (r = .81, p < .0001), internal consistency reliability (α = .96), predictive validity against artist ratings of a creative product (r = .59, p < .0001, and discriminant validity between both IQ and self-serving bias (Carson, Peterson & Higgins, 2005). The language of this scale was modified for Orthodox young adult subjects.

The CAQ consists of twelve domains in which artists work professionally, including the category of Architecture. See Appendix E for the list of these 12 domains.

Arts Interest Self-Report. In addition to the Carson CAQ, an author-generated list of 32 subdomains relating to the creative and performing arts was employed to collect further data regarding subjects' specific areas of interest within the overall field of the arts.

The author-generated list was compiled according to the primary methods of artistic expression: the composition of work, the performance of work, the technical manipulation of work, or "other," work not explicitly related to the arts, but associated with creativity or exploration. Thus, this scale consisted of four subdivisions: Composing, Performing, Technical-Administrative & Other Creative Areas. The "Composing" category contained ten unique forms of artistic expression, from music composition to writing, visual art, or choreography. The "Performing" category consisted of twelve unique categories involving the three primary performance modalities of music, spoken word and movement. The "Technical" and "Other" categories comprised the remaining eight areas of creative expression including examples such as directing, film

editing, baking, and scientific exploration. Subjects were asked to select their areas of interest from any category, with no limit on the volume of areas selected.   See Appendix E for the full list of domains.

 For the purpose of comparing subjects' involvement in the arts in a more streamlined system, the 32 independent categories were condensed into eight domain categories most relevant to artistic expression and unique from each other. These eight domains are listed in Appendix E.

Several factors influenced the determination of the condensed domains. The category of music was subdivided into "instrumental" and "vocal," as these areas of ability, although both involving the composition or performance of music, require different preparation methods and skill sets, and were thus determined to constitute two independent domains.

In contrast, the categories of "administrative" and "technical" were created as mergers of several subdomains perceived to be related based on common denominators. The domain labeled "administrative" included subcategories of directing, producing, business entrepreneurship and creative thinking, and was formed based on a common denominator of creative vision in working administratively with others. The domain labeled "technical" included subcategories of film editing, sound engineering, scientific inquiry and baking, and was formed based on the common denominators of technical skill and working alone.

In evaluation of response data, the number of unique areas of expression out of the full 32 is noted in results. However, final scores from this scale used comparatively with

other constructs was based only on the volume of category interests from the condensed eight.

Measurement of Trait Spirituality. Although clarity in definition seems possible regarding even the fuzzy construct of spirituality, its measurement faces challenges from several confounding factors.

Confounding factors in the measurement of spirituality.

The confounding factor of Christian cultural influence. In religion and spirituality literature, the majority of studies are conducted using subjects who subscribe to the Christian faith, and consequently the majority of measurements have been formulated according to the principles of Christianity (Hill & Pargament, 2003; Hyman & Handal, 2006; Miller-Perrin & Mancuso, 2015; Newport, 2012). Thus, the language referencing both religion and spirituality used in most existing measurements does not match religious Jewish use of the terms, and consequently, study results do not reliably reflect the perspective of Jews.

Studies do exist stripped of Christian references, designed for religiously unaffiliated subjects or those subscribing to eastern philosophy, but the terminology and descriptions of belief used in such studies do not approximate the Jewish model with any more success. The simple task of finding an existing scale, or even items on scales written in language reflecting a particularly Orthodox Jewish formulation of religious concepts faces these obstacles.

One tool does exist for measurement of religiosity and spirituality according to Orthodox Jewish terminology (Goldberg, 2006), but its focus is specifically on the

assessment of "religiosity" according to classic definitions and not on the construct of spirituality as operationalized for this study.

Confounding nature of the construct of belief. One difficulty in segregating spirituality from religiosity appears in the area of belief, in that cognitively held beliefs are both dictated by an organized religion, yet also held personally. One who subscribes to communal beliefs and also connects to them personally exhibits both religiosity and "spirituality." Assessment of beliefs, therefore, may be particularly suitable for use in a study in which both religiosity and spirituality are relevant, or when a distinction between them is unimportant.

For use in this study, however, identifying a personal inclination towards spirituality in a context of mandated religious practice requires a complete isolation of personal inclination from obligatory belief and practice. Otherwise, the source of the motivation is unclear, as in the case of a religious defector who expressed "I just don't know if I'm a good person because I'm a good person, or if I'm a good person because I was taught to be a good person" (Brodesser-Ackner, 2017). If belief is included within the teachings of mandated faith, then a measurement of belief will confound the identification of spirituality independent of religiosity, as it will be unclear whether that belief is held intrinsically, or adopted by virtue of affiliation with a particular religious belief system.

A relevant example is transcendental connectedness as it relates to the Divine, an area within Orthodox Judaism that is not only taught, but also obligated in Orthodox belief in the requirement to believe in G-d (Maimonides, 13 Principles of Faith, 1) as well

as practice in the obligation to pray to Him (Maimonides Tefillah 1:1, Sefer HaMitzvot, Aseh no. 5). Although "belief" may typically be intangible, and qualify as a personal, intrinsic expression of religion signaling the presence of "spirituality," in Orthodoxy the Jewish belief in G-d is mandated and controlled in the same fashion as are external practices. Thus, while evidence of "connectedness with G-d" might otherwise indicate spirituality, in the case of religious Jews, the obligatory nature of the belief aligns "transcendental connectedness" more, or as much with the classic conception of *religion* than that of spirituality.

Confounding factor of non-duality in Judaism. Although in empirical literature, the constructs of religiosity and spirituality have emerged with a "classical distinction" whereby religiosity refers to physical practice and spirituality to internal beliefs, this distinction cannot be made in Orthodox Judaism. According to Jewish teaching, physical actions themselves are considered channels for "spiritual connectedness," and authentic spiritual connection is considered impossible in realms of thought or speech alone; spirituality itself is found within the physical world, and can be accessed only through proper external practice. Thus, from this perspective, even measurement of spirituality would be possible simply by measurement of ritual behavior, which is how existing measurements do work.

However, in viewing the construct of spirituality not as a connection to the spiritual realm, but rather, as emotional connectedness, termed in Judaism "service of the heart," the construct is separated entirely from all association with "spirituality" in the sense of a non-physical world of the spirit. Thus, for the purpose of this study, the construct measured as "spirituality" is an affective, emotional quality. Although more

difficult to measure than physical action, of importance is clear segregation of the construct as an intrinsic trait from the performance of external behavior, even if that behavior is defined in scholarship as "spiritual."

Confounding factor of mandated practice. In western culture subscribing to the separation of church and state in which religion is free choice, citizens are not subject to authority which forces them to observe religious practice if they choose not to do so. Citizens can choose whether to adhere to both practices and beliefs of a religion, believe privately but not practice externally, identifying as "spiritual but not religious," or neither practice nor believe. But the "classic distinction" between external religiosity and internal spirituality exists, and practitioners are free to create any form of ritual connection that speaks to themselves personally. Formed by choice, the resulting religious or spiritual expression is characterized by intrinsic motivation.

An Orthodox religious community, however, views religion differently. Religious practice is mandated by virtue of community affiliation, and individuals do not exercise autonomy to make the personal choice to practice (Schachter, 2010; Topel 2012), if they wish to affiliate as Orthodox. Thus, while some practitioners adhere to religion due to intrinsic motivation, others may do so only to satisfy obligation or due to outside pressure to conform.

Further, mandated observance may not be limited to the practice of rituals, but applied to cultural norms as well. From the perspective of both leaders and laity, Orthodox Judaism is not viewed as a religion to practice, as it were, but as a lifestyle impacting all levels of behavior including dress, demeanor and belief: a deviation from

social norm or slight alteration of belief is equal to deviation from religious practice and thus a violation of the religion itself (Deen, 2015; Feldman 2013; Haber, 2014; Margolese, 2005; Tanny, 2012; Unger-Sargon, 2015; Vizel, 2012; Weinberger, 2012). Thus, not only in the area of belief in G-d, but in *any* area that might involve personal connectedness, if mandated by religious authority, potential for spiritual connection may be sublimated to a sense of obligation.

Aside from transcendental connectedness, another area of Orthodoxy confounded by the mandate to engage in practice of a spiritual nature is the expression of connectedness to others through generosity, self-sacrifice, compassion, and appreciation, as Jewish education teaches these as optimal characteristics of a religious observer. While these virtues may be taught as methods for self-improvement rather than as altruistic expressions of connectedness to others (Paquda, Chovot HaLevavot, 1040; Luzzatto, Mesillat Yesharim, 1738; Morinis, 2003), nevertheless, these constructs otherwise considered "spiritual" are confounded by the fact that they are also obligations of religiosity. Thus, even though general literature considers them to be expressions of spirituality, they have been removed from this study's assessment of spirituality due to their potential for a type I error (false positive) indicating spirituality when such behaviors are mandated by subjects' religion.

Further, as evidenced in the research of Saucier and Skrzypinska (2006), for an individual naturally predisposed to seek autonomy, being mandated to perform actions can also impact the perception and experience of otherwise spiritually characterized behavior. Simply being mandated in the adoption of faith, the exercise of compassion, or any otherwise "spiritual" action may actually repel an otherwise spiritually inclined

individual from naturally spiritual behavior.

Thus, for the purpose of this study, any trace of values, practices or beliefs that are espoused, taught or mandated in Orthodox Jewish religious education, while they may in other settings reflect spiritual connectedness, their presence within the Jewish religious framework will be considered a confounding factor in measuring a natural disposition towards spirituality as distinct from religiosity. Not only might spiritually inclined individuals respond to such practices or beliefs differently than peers, whether with more or less motivation, but further, non-spiritually inclined individuals may demonstrate high spirituality or "connectedness" when their embrace of beliefs or values may be sourced in mandated religiosity and not natural disposition.

Confounding factor of "G-d" language. Last, in the area of transpersonal connectedness, or connectedness to the "Divine," religious Jews refer to the Divine using specific concepts and phrases taken from languages of Hebrew and Yiddish, and view foreign terms as entirely separate entities not related to Judaism. For these two reasons, language of the Divine used in "spirituality" assessments requires careful evaluation.

1) Reason one: reference to their own religion. In the communities in which the subjects of this study have been educated, the Divine/transcendent is referred to as "G-d," "The Creator," or a term in Hebrew or Yiddish particular to their sect of Orthodoxy (eg "HaKadosh Baruch Hu," "Hashem," "The Abishter" et al.), thus reference to any such terms will be avoided, due to the association with their mandated religious beliefs as explained above.

2) Reason two: reference to a different religion. Terminology specifically

used in non-Jewish faiths such as "The Lord" or "Allah" are identified with those religions and would distract religious Jewish subjects from the essence of a question referring to what they call "G-d," if not repel them from the entire study.

Thus, great caution was taken in identifying effective scale items to measure spirituality which did not use terminology for "G-d" which was either specifically Jewish, or specifically associated with a different faith.

Confounding factor of spirituality confused with "spiritual wellness." As in the field of creativity where many assessments aim to measure an achieved outcome rather than more elusive disposition, so too, the majority of spirituality assessments, when they do exist devoid of overt Christian, secular or eastern faith references, focus on spiritual "wellness," the achievement of spirituality, and not simply the inclination to search for it (Meezenbroek et al, 2012; Miller & Barker, 2016; Neff, 2006).

Any effort to ascertain the existence or attainment of spiritual wellness will be avoided in order to prevent a confounding of the inborn disposition simply to *seek* spirituality. Emphasis will instead be placed on indications of the *search* for spirituality, in the form of a search for connectedness to self, and a "search orientation" in general, as indications of an inborn orientation and not an outcome achieved.

Factors valid for measurement. Although arguably many areas of religion such as connection to the Divine and cultivation of virtues do overlap with attributes of spirituality, possibly leading to the observed overlap between the constructs, there are still areas in which the two constructs do not overlap, and it is in these areas with which the current study concentrates its effort. Important to this study is distinguishing the

individual who expresses a *natural* disposition towards spirituality *despite* the obligation upon them as a religious person to do so. Thus, the only areas of measurement will be the areas of spiritual connectedness in which the Jewish Orthodox community is notably weak.

There are several forms of connectedness selected for this study because in the Orthodox community they appear to be implicitly if not explicitly unsupported. The first is connectedness to one's self, such as the understanding or discovery of one's personal life mission. The second is connectedness to others in the philosophical sense of "Other" - not simply others in one's own community, but particularly to those *outside one's immediate faith group.* Third is a particular disposition to appreciate nature, and last is the use of neutral terms in description of the Divine construct.

Connectedness to self. In some Orthodox communities, not only might a channel for pursuit of self-knowledge be prevented, but public expression of interest in such a goal may be penalized (Lavin, 2015; Putz, 2010; Topel, 2012; Vizel, 2012; Winston, 2005). The pursuit of self-knowledge reflects values counter to the prevailing collectivist approach of the Jewish community (Cohen & Hill, 2007), and expressions of individuality indicate the adoption of what is perceived as self-centered or religiously compromising trends in secular society (Schechter, 2010; Sokolow, 2005).

Connectedness to "others" (outside one's immediate faith group). Here, distinction is important regarding use of the word "other." The word in this context does not merely refer to others in one's immediate environment or community. Rather, the operationalized meaning of the word "other" here reflects the literary and sociological

use of "Other" or "Otherness," as in one perceived by the group as not belonging, as being different in some fundamental way.[8]

While connecting to community members with compassion is considered a virtue as referenced above, connectedness with humanity outside one's immediate faith group can be viewed with skepticism, fear, or even disdain among religious authorities (Balk, 2013; Kellner, 2017). This resistance to connecting with "others" has been noticed by the community of defectors from Orthodoxy and seems to impact them deeply: in a 2005 study of defection with more than 500 participants, 100% of study subjects cited lack of respect for those outside their immediate community as characteristic of their own community, and an astounding *100%* of defectors cited this as a cause of their discomfort with Orthodoxy and subsequent defection (Margolese, 2005).

Whether those who defect feel the absence of "connectedness to others" more deeply than the general population who adopt this approach has not been further investigated, but the Margolese study makes clear that defectors as a group evidence a significant negative response to the communal lack of connectedness to "others" if the "other" subscribes to different religious beliefs. This current study will further investigate this finding in seeking confirmation that connectedness to "The Other" is more pronounced for those with a spiritual disposition.

Appreciation of nature. An appreciation of nature has been linked to spirituality in all three domains of connectedness. Nature is used in reference to transpersonal connectedness as the part of the universe that transcends mankind, in reference to

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[8] http://academic.brooklyn.cuny.edu/english/melani/cs6/other.html

interpersonal connectedness as both a sign of connection to "the world" as well as an appreciation of "beauty," and in reference to intrapersonal connectedness as a stage in which the disposition towards spirituality manifests in the form of meditation or reflection. In addition to those associations relating to "connectedness," the appreciation of nature is a factor itself in identifying a spiritual disposition.

In religious Judaism, there is little explicit teaching, neither to children nor adults, emphasizing the value of the natural world, or the value of appreciating it. There are select rabbis who have encouraged an appreciation of natural beauty, or who encourage the practice of "hisbodedut," self-reflection often taking place alone in nature. However, these voices have not been adopted as mainstream opinion or practice. For this reason, a disposition towards appreciating nature would not be confounded by the laws Orthodox Judaism, and thus can be used for the purpose of isolating a spiritual disposition among Orthodox practitioners.

Neutral references to "transpersonal" connectedness. Some terms communicate the concept of transpersonal connection without implicating association with either Jewish religion or a foreign religion, but are also sufficiently foreign to Orthodox Jewish language that they would not be confused with religious Jewish concepts. Thus, using the construct of transpersonal connection as a factor in assessing personal disposition towards spirituality is possible through use of such "neutral" terms. Words such as "transcendence," "the transcendent dimension," "nature" and even the term "Divine" represent language sufficiently foreign to religious Jews to prevent association with a mandate of their own religion, and neutral enough to prevent association with a foreign religion which would trigger a negative response from subjects. Thus, scale items

exploring personal interest or relationship with a conception of the Divine not embraced by Jewish Orthodoxy nor distinctly associated with an alternative religion would be acceptable.

Operationalization of spirituality in sum

Avoidance of confounding factors. Based on the Orthodox community's weakness in areas of connectedness to self-knowledge, connectedness to those outside of one's immediate faith group (construct of "other"), explicit appreciation of nature, and resistance to foreign terminology in reference to a transcendental dimension or presence, these areas would less likely be confounded by the mandated beliefs and values of Jewish Orthodoxy. Measuring spirituality according to these particular areas of connectedness thus avoids the confounding effect of mandated religiosity and can possibly indicate a natural disposition towards spirituality more accurately.

Clarification of constructs measured. Spirituality, as accepted in empirical literature, but screened with the intent to avoid false positive errors in use with Orthodox Jewish subjects, will be indicated by subjects' interest in searching for connectedness to self, appreciation of others understood as the sociological construct of "Otherness," disposition towards appreciation of nature, absorption ability, and neutral terminology for the transcendent dimension. In addition, "absorption ability" will be assessed.

Connectedness to self, also as commonly accepted in existing literature, will be manifest as interest in the search for meaning, mission, purpose or self-understanding. Connectedness to others and connectedness to the Divine/transcendent will be operationalized in this study in a way that attempts to avoid the confounding influence of

learned behavior, beliefs or terminology used in Orthodox Jewish education.

Humane virtues such as empathy, humility, gratitude and generosity are taught and practiced, if not mandated, as a part of religious behavior. The goal of adopting such virtues may be self-perfection (Luzzatto, 1738; Paquda, 1050) and not altruism as these virtues denote in spirituality literature. Nevertheless, as they are taught if not demanded of Orthodox Jewry and may lead to a false positive indication of a natural spiritual disposition, they will not be evaluated as a measurement of spirituality. However, the mandate for such virtues applies to those of shared faith, whereas those outside the immediate faith group may actually experience exclusion or prejudice (Margolese, 2005). Therefore, within the construct of "connectedness to others," scale items would be modified to specifically imply inclusion of Otherness, those *outside an immediate faith group*, or particularly assess values of tolerance for diversity and respect for those with differing beliefs. This approach is taken in the hope that measurement of an innate disposition towards "connectedness with others" will be less confounded if a subject exhibits this construct even in circumstances when their learned behavior contradicts it.

In the communities in which the subjects of this study have been educated, the Divine/transcendent is referred to as "G-d," "The Creator," or a term in Hebrew or Yiddish and particular to Orthodoxy (eg "HaKadosh Baruch Hu," "Abishter" et al.), thus reference to any such terms will be avoided. However, scale items exploring personal interest or relationship with a conception of the Divine not embraced by Jewish Orthodoxy nor distinctly associated with an alternative religion (eg, "The Lord" or "Allah"), such as "nature" or "the transcendent dimension" may be included.

Scales used

Meaning in Life Questionnaire, Search Subscale [MLQ-S] (Steger et al., 2006). The construct of spirituality measured by this scale is "connectedness to self" as a search for or discovery of meaning in life. The full MLQ measures both the search as well as the attainment of meaning in life. The aim of this study, however, is to isolate the innate desire to *search* for meaning from the achieved discovery of it. Therefore, only the "search" subscale and not the full instrument is used in this study. Results are not impacted by this use of the scale.

While the MLQ is a highly reliable and validated tool for measuring "search for meaning," the scale is not typically used in literature to measure "spirituality." However, when spirituality is stripped of its term and rather viewed as a construct, the MLQ can be effectively used to measure what is a primary identifying factor of the construct.

The MLQ evidences internal consistency, temporal stability, and both convergent and discriminant validity on its subscales across time and informants (*ibid*).

Spiritual Orientation Inventory (Elkins et al, 1988). The SOI scale used in this study is shortened from its original version of 85 scale items, using only items measuring empirically supported constructs of spirituality as well as phrased in language free of confounding factors.

The items selected from this scale assess constructs of "connectedness with the self" involving the value of mission, purpose, meaning in life and self-understanding, "connectedness with others" with reference to others *outside* the immediate faith group, and "connectedness with the Divine" as termed "transcendent dimension" or "nature."

Selected items come from subscales of Altruism, Transcendence Dimension, Meaning & Purpose in Life, Mission in Life, Sacredness of Life, Awareness of the Tragic, and Idealism. The scale author is a leading humanist psychologist specializing in the understanding of spirituality (Elkins, 1995, 1998, 2005).

Mysticism Scale – Ego Quality subscale (Hood, 1975). This refers to the experience of a loss of sense of self while consciousness is maintained, commonly experienced as an "absorption" into something greater than the self. This additional construct will be measured in light of research indicating "absorption" as a spiritual ability (Hamer, 2004; Johnstone, 2012; Saucier & Skrzypinska, 2006), with the potential of comparing this experience to the "flow" experienced during creative work (Csikszentmihalyi, 1996).

Measurement of Environmental Support

Environmental support for creativity: RESC (Runco, 2017). While environmental conditions that support or hinder creativity have been clarified (Amabile, 1996), a tool to measure the creativity within a K-12 school has not yet been developed. However, one scale does exist to measure the creative environment of an educational setting, the Runco Evaluation of Settings & Climate [RECS], and thus for the current study, the language of this scale has been modified to address a K-12 setting.

The RESC was developed by Mark Runco and colleagues to measure environmental support for creativity. The original scale as formulated for a "school" environment uses language suited to evaluation of a higher education university department, but with minor language modification this scale can solicit comparable information from any school

environment, including a K-12 school. For purposes of the current study, this scale is used with language modification reflecting a K-12 school, and in a shortened form to facilitate its inclusion in the larger battery of tests administered simultaneously.

Environmental support for spirituality: RUACH "alienators and connectors." Very little research has been conducted regarding the conditions impacting the support or hindrance to spirituality in any environment. However, research in 2011 (Pelcovitz, Goldberg, & Rosenberg, 2011) led to the discovery of data regarding environmental factors that may foster or hinder student spirituality, which forms the basis on the study scale measuring environmental support for spirituality.

Although a scale has not previously been formulated for research, the qualitative research conducted by the RUACH project in 2011 provides a framework for understanding factors in an environment that help or hinder adolescent spirituality, respectively termed "connectors" and "alienators" (*ibid*). These factors will comprise a preliminary scale for subjects to complete as an indication of their perceived "environmental support for spirituality" in terms of environmental factors evidenced to connect or alienate students from spirituality.

Additional questions

Supplement for existing scales. Not every construct requiring assessment in this study was adequately measured by questions on existing scales. Therefore, several author-generated multiple choice questions were added to the overall assessment battery to accommodate the evaluation of missing factors.

Further, to provide subjects the opportunity to describe their thoughts, feelings,

opinions, and experiences in their own words, the questionnaire also includes several open-ended questions.

Students were also asked their willingness to discuss the study topics further, and those who agreed may be considered for a follow-up study if needed.

Religious beliefs. Subjects were asked to identify themselves religiously according to the particular set of beliefs they subscribed to personally, the beliefs of their school, and the beliefs of their home environment.

Demographics. Subjects were asked to identify themselves according to age, gender and country of residence.

Methods Summary

One questionnaire of a 30-minute duration, consisting of a battery of scales and questions measuring artistic talent, creativity and spirituality as traits, and school support for creativity and spirituality was administered to 54 Orthodox Jewish predominantly female young adults with a mean age of 19.

Subjects completed the questionnaire in an online format and gave their consent before completing the questionnaire. Subjects younger than 18 were reached with consent of their parents, and subjects of Tzohar Seminary for Chassidus and the Arts were contacted with consent of Seminary administration. Only 39 complete surveys were qualified to use for quantitative analysis of results, but descriptive and qualitative data was gleaned from all subjects completing a given question.

Artistic talent among all subjects as well as affiliation with Jewish Orthodoxy - on a basic level of commitment to traditional legal codes of Orthodox Judaism - were both ascertained as independent variables for two primary tests.

The first evaluation was quantitative, testing dependent variables of divergent thinking and spiritual disposition. Valid and reliable scales included in the study questionnaire measured these two variables in artistically talented subjects, and scores were compared to control groups of non-artistic subjects taken from empirical literature.

 The second evaluation was qualitative due to the absence of validated measurement tools for the remaining sections of the questionnaire. The additional scales and questions were used to understand the environmental support for creativity and spirituality in Orthodox schooling as experienced by artistically talented students.

Chapter Seven, Results

Descriptive Data

 Age. Subjects' ages ranged from 11 to 26, but the majority of subjects were 18-23, with a mean age of 19. Five outlier participants eliminated from the analysis of results were ages 10, 11, 27, 31 and 42. Visual representation of this data is shown in Figure 1.

Age
Answered: 54 Skipped: 0

9.26%	3.70%
12.96%	16.67%
20.37%	37.04%

- 11-13
- 18-20
- 24-26
- 14-17
- 21-23
- Other (Please specify)

Choices	Response percent	Response count
11-13	3.70%	2
14-17	16.67%	9
18-20	37.04%	20
21-23	20.37%	11
24-26	12.96%	7
Other (Please specify)	9.26%	5

1. 42 - self
2. 31
3. 10
4. 42
5. 27
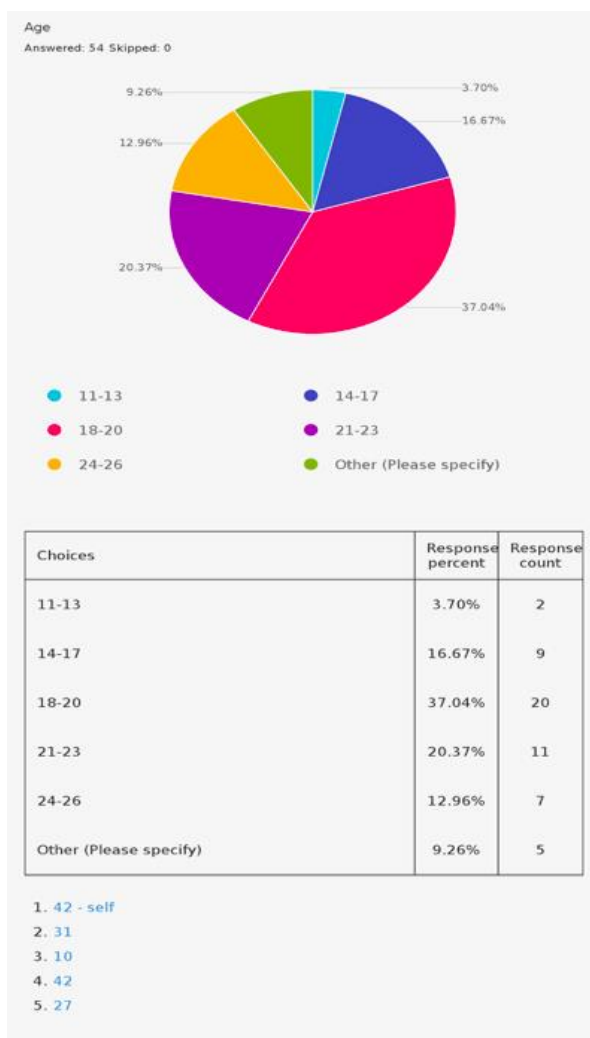
Figure 1. Subjects' Age

Overall, the mean age of subjects was 19, with a standard deviation of 2.974, as seen in Table 1.

Table 1. Age Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age	39	19.00	2.974	.082	.378	-.163	.741

Gender and country of residence. Participants were predominantly female (95%) and from North America (92%), the majority from the United States (79%) with a portion from Canada (13%), and one subject each from Israel, the UK and Australia.

Hashkafa. Preconditions of participation in this study were a family background of Jewish Orthodoxy as well as the attendance at an Orthodox school for several years past the third grade. However, as Jewish "Orthodoxy" consists of a range of differing philosophical outlooks referred to as "hashkafa," descriptive data relating to hashkafic affiliation may be relevant to religious readers.

Operationalized for the study, Jewish Orthodoxy was defined as adherence to the basic tenets of Jewish law, with Modern Orthodoxy being considered the most liberal group constituting "Orthodoxy." Additional hashkafic affiliations in the study included the three right wing Orthodox groups of Litvish, Chabad, and Ultra-Orthodox, having

traditional philosophical bases emerging from early modern origins in Lithuania, Russia, and Hungary, respectively.

Approximately half of all subjects were raised in homes (51%) or educated in school systems (46%) of Chabad. The likely explanation for this is that a large portion of subjects were recruited from Tzohar Seminary for the Arts, a school administered by and predominantly serving the Chabad community. However, a large group of subjects (33%) also represented the hashkafic outlook of "Litvish," and a sizeable portion affiliated as "Modern Orthodox" (14%) with only one subject affiliating as "Ultra-Orthodox." A notable volume of subjects described their home environment or personal hashkafa as "Mixed." However, "mixed" was not a choice in school hashkafa, thus in school attendance subjects affiliated with one of the three primary groups of Chabad, Litvish, or Modern Orthodox (Machmir). Visual representations for the religious outlook of subjects' home environment, school, and personal choice appear in Tables 2.1, 2.2 and 2.3 respectively.

Approximately 11% of students, although raised in an Orthodox home, did not attend an Orthodox school. While these subjects' data were retained in the analysis of personal traits, their lack of attendance at an Orthodox school disqualified them from inclusion in analysis of their school experiences, even if they completed the full study

Table 2.1. Home Hashkafa

Choices	Response percent	Response count
Chabad	51.85%	28
Litvish/Yeshivish	20.37%	11
Ultra Orthodox Chassidic	0.00%	0
Modern Orthodox Machmir	3.70%	2
Modern Orthodox Liberal/Open Orthodox	9.26%	5
Baal Teshuvas / Mixed	14.81%	8
Jewish Affiliated Non-Orthodox	3.70%	2
Unaffiliated	0.00%	0
Reject Judaism	0.00%	0
Other (Please specify)	7.41%	4

1. Father is Modern Orthodox Machmir, Mother is more traditional

2. Has belief but doesn't keep much

3. Unsure how to answer as my parents are Baal teshuva but have a very ultra orthodox chasidic influence/view

4. Orthodox. Try to follow Halacha and do what Hashem wants of us and be close to Him.

Table 2.2. School Hashkafa

Choices	Response percent	Response count
Chabad	46.30%	25
Litvish/Yeshivish	33.33%	18
Ultra Orthodox Chassidic	0.00%	0
Modern Orthodox Machmir	14.81%	8
Modern Orthodox Liberal	0.00%	0
Not Orthodox Jewish School	3.70%	2
Montessori/Alternative School	0.00%	0
Home School	0.00%	0
Public school	3.70%	2
Other (Please specify)	5.56%	3

1. Kiruv public school
2. Non-Jewish private school
3. Private school

Table 2.3. Personal Hashkafa

Choices	Response percent	Response count
Litvish/Yeshivish/BY	20.37%	11
Chassidic Chabad	46.30%	25
Chassidic Ultra Orthodox	3.70%	2
Chassidic modern minded	20.37%	11
Modern/Dati Machmir-Centrist	11.11%	6
Modern/Dati Liberal-Open	9.26%	5
Baale Teshuva	1.85%	1
Carlebach	5.56%	3
Mixed Hashkafa	18.52%	10
Jewish Non-Orthodox Conserv-Reform	0.00%	0
Jewish Non-Orthodox Renewal	0.00%	0
Unaffiliated	3.70%	2
Turned Off by Judaism	5.56%	3
Other (Please specify)	9.26%	5

1. Modern Orthodox Middle of the Road
2. Currently agnostic but searching for my truth
3. Chabad (a bit modernized)
4. Combination of modern orthodox machmir and chasidic - would like to consider myself ultra orthodox chasidic but I know that I am not exactly that
5. Orthodox. Try to follow Halacha and do what Hashem wants of me and be close to Him.

Arts interest and ability. In addition to affiliation with Jewish Orthodoxy, participation in this study was limited to students for whom artistic interest or ability was present. Study participants were recruited through a school focused on the arts, as well as

private connections to families in which at least one parent affiliated professionally as an artist, and the child him or herself expressed a personal interest or demonstrated ability in at least one art domain based on preliminary "correctness of fit" screening and parental report.

In addition to recruitment measures, however, two self-reporting scales were used to confirm the ability or "achievement level" of subjects, and also used to identify their specific domains of interest.

Achievement level was assessed according to Carson's Creative Achievement Questionnaire [CAQ] (2005). Domains of interest were assessed using both Carson's CAQ (2005) and an author-generated list of 32 categories.

Study-generated 32-domain list

Quantity of domains. Results from an analysis of data reveal that from the 32 domains, no subject selected less than three domains, and some subjects selected up to 19 unique domains. The average selection was 9 - 12 domains. Thus, in terms of descriptive data, "interest in multiple domains" is characteristic of all subjects. The full list of domains can be viewed in Appendix E.

Domain subjects. In regard to specific domain affiliation, more than half of subjects expressed interest in poetry (61.11%), visual art (57.41%), and acting in a play (57.41%).

Relatively large subject groups also identified themselves with interest or ability in piano (40.74%), fiction writing (40.74%), scriptwriting (38.89%), pop/rock vocal

performing (33.33%), music composition (31.48%), improvisational acting (31.48%), musical theater performance (acting, vocal and dance combined) (31.48%), ensemble vocal performing (31.48%), lyrics composition (27.78%), with a relatively high volume of subjects with ability or interest in guitar (22.22%) and contemporary dance (jazz, lyrical, modern)(16.67%).

Although not performance or composition, interest in technical or administrative aspects of the arts or domains related to the arts included notable representations in film directing (36%), general creative thinking (36%), producing/organizing events (30%), scientific inquiry (30%), film editing (28%) and sound recording (26%).

Visual representation of the domains in which subjects expressed interest can be viewed in Table 3.1 – 3.3, *Composing New Work*, *Performing Arts Domains*, and *Other Creative Areas*.

Table 3.1. Composing New Work

Choices	Response percent	Response count
Music composition	31.48%	17
Music lyrics or performance poetry	27.78%	15
Music arrangements	14.81%	8
Choreography	16.67%	9
Comedy	12.96%	7
Visual art	57.41%	31
Writing stories or novels	40.74%	22
Writing poetry	61.11%	33
Writing scripts	38.89%	21
I Don't Compose	9.26%	5
Nothing composed yet, but ya never know...	11.11%	6
Other (Please specify)	12.96%	7

1. writing essays
2. Music and theatre
3. Directing and Producing
4. Photography
5.
6. enjoy connecting information based on abstract concepts that they share
7. Like to sing, speak, paint, sketch, perform

Table 3.2. Performing Art Domains

Choices	Response percent	Response count
Acting in a play	57.41%	31
Improv Acting	31.48%	17
Stand-up Comedy	9.26%	5
Slam Poetry	12.96%	7
Musical theater (acting + vocal)	31.48%	17
Vocal music: pop, rock	33.33%	18
Vocal music: opera, chazzanut	9.26%	5
Vocal music: a cappella, choir, beatboxing	31.48%	17
Instrumental: piano	40.74%	22
Instrumental: guitar	22.22%	12
Instrumental: string	7.41%	4
Instrumental: wind	5.56%	3
Instrumental: percussion	7.41%	4
Contemporary Dance (jazz, modern, lyrical)	16.67%	9
Classical-ballet	7.41%	4
Hip hop or Tap Dance	11.11%	6
Dance: other	9.26%	5
I don't like to perform	9.26%	5
Other (Please specify)	11.11%	6

1. dance - freestyle / disco
2. Violin, film
3. voice overs, directing, producing
4. chazzanus
5. I specialize in chazzanut- why is this not a choice above ;)?
6. Improv

Table 3.3. Other Creative Areas

Choices	Response percent	Response count
Producing/organizing events	30.00%	15
Directing Theater	24.00%	12
Directing Film	36.00%	18
Editing Film	28.00%	14
Sound Engineering	6.00%	3
DJ/mixing music	10.00%	5
Music Recording	26.00%	13
Arts Admin/Management	18.00%	9
Creative Thinking, but not in the arts	36.00%	18
Scientific Inquiry/research	30.00%	15
Baking	42.00%	21
Invention/Innovation	18.00%	9
Business ventures	20.00%	10
Other (Please specify)	4.00%	2

1. Other cooking
2. Makeup artist

Condensed domains. During analysis of data, the 32 unique domains revealed

patterns that enabled a compression of multiple domains into eight primary categories.

The initial division between "composition" and "performance" did not distinguish subjects adequately, as many subjects selected domains from both categories.

Three primary changes were applied to create a new structure for evaluation of study data. The domain of music seemed to require a division between two subgroups of instrumental music and vocal music, and a merger seemed helpful between domains involving organization ability, and another between those involving technical work conducted in isolation. The eight condensed domains consisted of Music - instrumental, Music - vocal, Theater, Dance, Visual art, Writing, Arts leadership (domains such as directing and producing), and Technical skill (which included film editing).

Each subject was assessed in how many of these eight unique domain categories they had expressed interest. 100% of subjects selected two or more domains from these eight, and more than 75% expressed interest in three domains or more. Of the 39 subjects completing this portion of the study, one subject had expressed interest in all eight domains, two had expressed in seven areas, and seven had expressed interest in six areas, yielding more than 25% of subjects with interest in six unique artistic domains or more.

However, the majority of subjects expressed interest in five domains (N=11), four domains (N=10), or three domains (N=9), resulting in more than 50% of subjects expressing interest in 3-5 unique domains. The mean score for unique domains of interest was 4.3, indicating that the average subject possessed interest or talent in 4.3 unique domains from the list of eight above.

Creative Achievement Questionnaire [CAQ] (Carson, 2005). Carson's Creative Achievement Questionnaire (2005) is a self-report measure used to identify subjects'

interest and also ability in art domains that has been tested for validity and reliability (Carson, 2005). However, its original language was modified for use with adolescent religious subjects as will be described below, thus it is used to report only qualitative data in the context of this study.

The CAQ consists of twelve domains in which artists work professionally, including the category of Architecture. See Table 3.4 for the list of these 12 domains.

Table 3.4. Professional Art Domains in Carson's CAQ

Fine Arts (painting, drawing, sculpture, photography, graphics)

Music (vocal, instrumental)

Movement (classical or contemporary dance, yoga)

Writing (stories, non-fiction, poetry, scripts)

Theater (acting, directing)

Film (acting, directing, editing)

Architectural design

Entrepreneurial (self starting business) ventures

Humor (making people laugh)

Invention or Innovation

Scientific Inquiry (research, investigation)

Culinary Arts (baking, cooking)

Domain interest. Forty-five subjects completed this portion of the study. Out of N=45, the majority of subjects (73%) expressed ability in seven to ten different domains. No subject identified with less than 4 domains in which they had a minimum of "Some

Ability." The overall results presented in a bell curve format, with the mean of subjects falling between 8 and 9 domains of involvement. See Figure for a visual representation of this data.
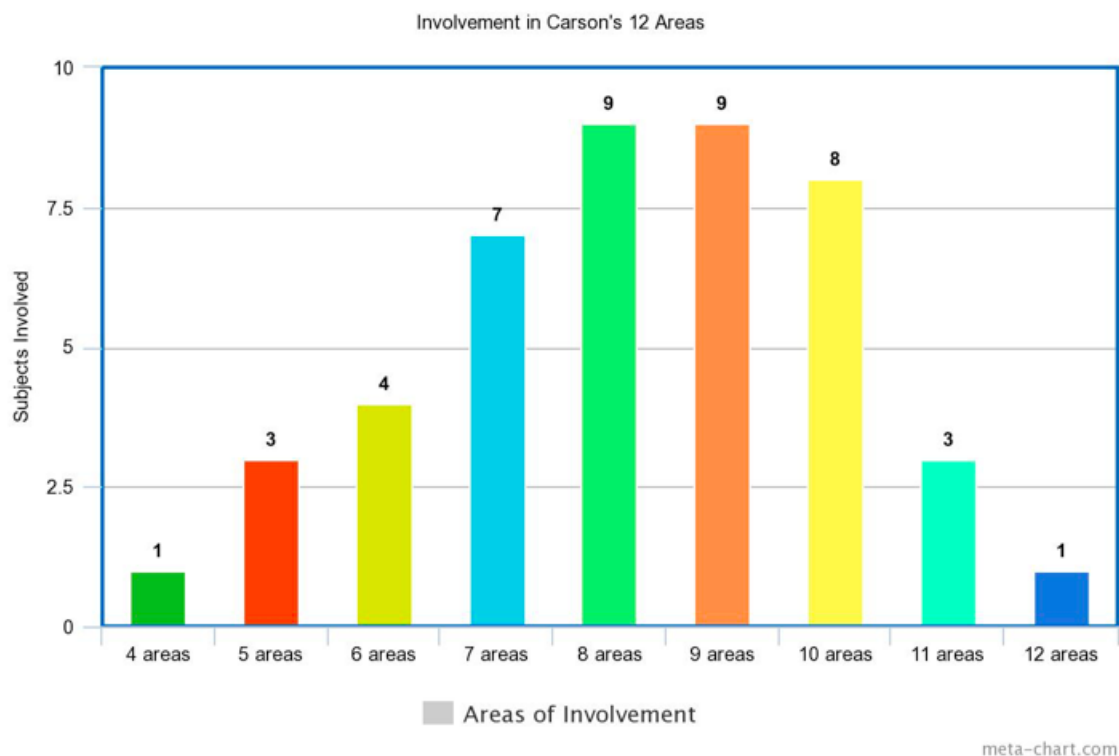
Figure 2. Subject Identification with Carson's Domains

Achievement level. Achievement level was measured by Carson's Creative Achievement Questionnaire (2005) with language modified for religious adolescents and young adults.

Carson's scale was developed to assess creativity in twelve professional domains based on a global community in which international renown is viewed as an achievement goal. Religious youth, regardless of talent, are typically neither exposed nor encouraged to pursue a professional arts career outside their religious framework. While exceptions

may exist, both Orthodox law as well as weak cultural attribution of value to artistic expression impede this goal. Thus, although Carson's scale was used, its language was modified to accommodate religious adolescents and young adults for whom professional work and world renown were largely inaccessible. Rather than use Carson's original language to describe achievement levels, subjects (N=45) were asked to assess their ability in each of Carson's domains on a scale of 1-5 using the following descriptors:

- No ability
- Some ability
- Above average
- Community recognition
- Award winning/renown

The highest level of achievement reached in at least one domain was considered to be the achievement level for each subject.

The mean achievement level of all subjects combined (N=45) was 3.8 out of 5, indicating that subjects had, on average, identified themselves at a minimum achievement level surpassing "above average" (score of 3) and approximating "community recognition" (score of 4) in at least one domain.

Within each achievement level, the following data emerged:

1) *Above average in 2.5 domains.* The volume of domain areas in which subjects scored "above average" reflected a bell curve distribution. The majority of subjects (62%) identified with this achievement level in 2 or 3 domains, with 31% in two domains, 31% in three domains (N=14 for each), with remaining subjects' abilities above average in one domain

(20%, N=9) or in four domains or more (11%, N=5). Thus, as a group, subjects possessed above average ability in a mean of 2.5 independent art domains.

2) *Community recognition in 1-2 domains:* On the level of community recognition, 58% identified with this achievement level in at least one domain. However, this population was evenly divided between subjects who had achieved community recognition in one domain, or in two domains or more. Approximately 30% of subjects (29%, N=13) identified with the achievement level of community recognition in two domains or more.

3) *Award winning - 1 of 5:* On the level of award winning, almost 20% (18%, N=8) of subjects identified with this achievement level in at least one domain.

Summary of artistic interest and achievement levels. In sum, subjects had interest in approximately 8.5 domains out of Carson's twelve and four domains from among the eight of the author-generated 32-item condensed list. Achievement levels measured "above average" in 2-3 unique domains with "community recognition" in at least one domain, as measured by a modified version of the Carson CAQ (2005).

Summary of descriptive data overall. In sum, the descriptive data indicates that the average subject completing this study (N=54) was approximately 19 years of age, female (95%) and residing in North America (92%). Hashkafically, they were almost half likely (46%) to affiliate as Chabad, and almost half likely (48%) to hold a different religious outlook, respectively 33% Litvish or 15% Modern Orthodox.

Artistically, they were on average involved in 4-8 domains of artistic expression, performing above average in 2 to 3 domains, and at a level of community recognition in at least one domain.

Thus, a basic narrative description of the average study participant would be a 19-year-old female from a Torah observant home in North America who has above average skills in two to three unique domains in the field of creative and performing arts.

Research Questions Overview

According to the study research questions as stated in Section IV, this study is driven by two research interests, with each interest further divided into two components.

Personal Traits. The first research interest relates to the personal traits of the artist, inquiring whether a student exhibiting talent in the arts also possesses above average cognitive or emotional traits identifiable as "creative" or "spiritual." That is,

- What is the correlation between artistic talent and creative thinking?

- What is the correlation between artistic talent and a natural disposition towards spirituality?

This portion of the study is mixed-method.

Quantitative data. Quantitatively the constructs of artistic talent, divergent thinking, and spiritual disposition are measured by valid and reliable instruments, and statistical analysis is conducted. The independent variable is artistic talent, with dependent variables creative thinking ability and disposition towards spirituality. Religious affiliation has been controlled through the elimination of confounding factors between spirituality as a natural disposition and an experience connected to mandated religion.

The subjects selected to be included in this study exhibited an above average ability in the arts, both as a precondition for participation and also as confirmed in study results, and through the process of completing the study, were evaluated on their strengths in creative thinking and spiritual disposition.

This study hypothesizes that a high positive correlation will exist among all constructs evaluated: artistic talent, creative thinking, and a spiritual disposition, such that evidence will indicate pronounced strength in both creative thinking and spiritual disposition among individuals with artistic talent.

Qualitative data. Aside from use of valid and reliable scales for testing divergent thinking and search orientation, additional factors relating to creativity and spiritual disposition are assessed.

Creative personality. Creative personality measurement in this study, although conducted with a valid and reliable scale, is considered to be qualitative, due to a mismatch between the scale and religious background of subjects. A disproportionate volume of confounding factors led to a consideration of its resulting data exploratory rather than inferential in nature.

Spiritual disposition additional factors. Spiritual disposition measurement in this study, although also measured quantitatively, is supplemented with the measurement of several additional factors using scales or additional questions that have not benefited from adequate reliability and validity testing. Results from these assessment tools are therefore considered qualitative rather than quantitative data.

School Support. The second research question is how students exhibiting above average disposition towards creativity and spirituality feel supported for these strengths in a religious school. That is,

- Do creative students in Orthodoxy perceive their school environment to be supportive of creativity?

- Do spiritually disposed students in Orthodoxy perceive their school environment to be supportive of spirituality?

The data from this section of the study is qualitative, as all scales or questions used to measure the constructs of school experiences have not benefitted from reliability and validity testing.

For this portion of the study, independent variables are school affiliation with Orthodoxy, and a creative disposition resulting from the trait combination of artistic talent, divergent thinking and trait spirituality, with experience of school support for creativity and school support for spirituality as dependent variables. Affiliation with Orthodoxy is established as a pre-condition of participation, and confirmed in study results as reported in the descriptive section above. Strength in artistic talent, divergent thinking and spiritual disposition are identified using quantitative measurements in the first section of the study.

This study hypothesizes that a negative correlation will exist between the creative and spiritual student and his or her experience of support for both creativity and spirituality in Orthodox schooling, such that students who are more highly creative and spiritual will perceive their school environment to be lower in support for both creativity and spirituality.

Personal Trait Quantitative Testing

Correlation of artistic talent with creative thinking ability. This study hypothesizes that a high positive correlation exists between artistic talent and creative thinking ability.

Summary of measurements used

Artistic talent. Study subjects were assessed to be a group with above average artistic ability across multiple domains as measured by the Creative Achievement Questionnaire (Carson, 2005) as well as an author-generated list of 32 creative domains. According to these scales, subjects on average demonstrated interest in between four and eight domains of expression, with above average achievement level in more than two domains and community recognition in one domain.

Creative thinking ability. The scale administered to assess creativity is an instrument developed by Marc Runco known as the RIBS, the Runco Ideation Behavior Scale. This scale measures creative thinking ability according to the three classic constructs of creativity proposed by J. P. Guilford that form the basis of the Torrance Creative Thinking Tests used to test creative giftedness until today. In addition, the RIBS also tests the construct of creative achievement, reflecting a model of creativity proposed by Robert Sternberg, Teresa Amabile and Mihaly Csikszentmihalyi that measures creativity based on the external evaluation of creative accomplishment. Thus, Runco's scale, which also takes relatively little time to complete, assesses four primary constructs identified in empirical literature as "creativity," whether labeled creative achievement or creative potential.

The control group was obtained from research conducted by Runco during the development of his instrument, and consisted of a group of northeastern students of college age. As the study group is also predominantly from the northeastern United States with an average age of 19, Runco's group of subjects was determined to serve as an adequate control for the study subjects.

This question did not involve an assessment of religiosity or spirituality, and therefore these constructs do not factor as variables in this portion of the study.

Visual representation of RIBS data. In comparing the study group results (N=39) to the results of the control group (N=225), accounting for the three questions eliminated, the study subjects scored consistently higher in mean, and lower in standard deviation than the control group.   See Figures 3.1 and 3.2 for visual representations of a comparison of means and standard deviations, respectively.
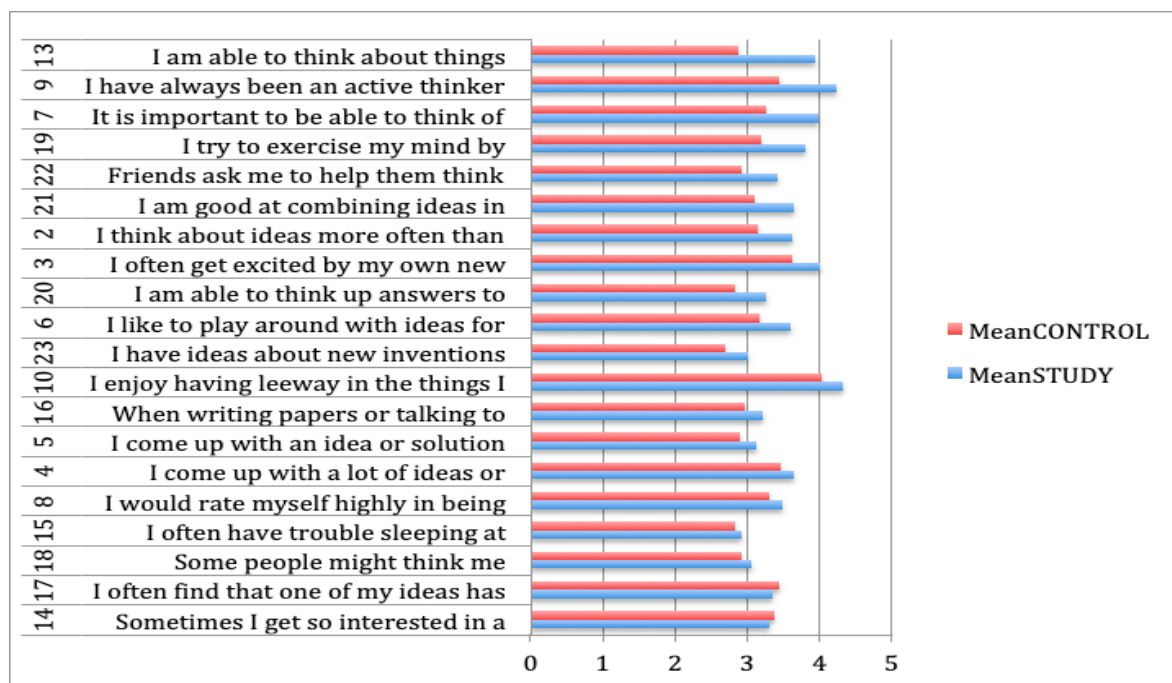
Figure 3.1. RIBS Mean Visual Comparison
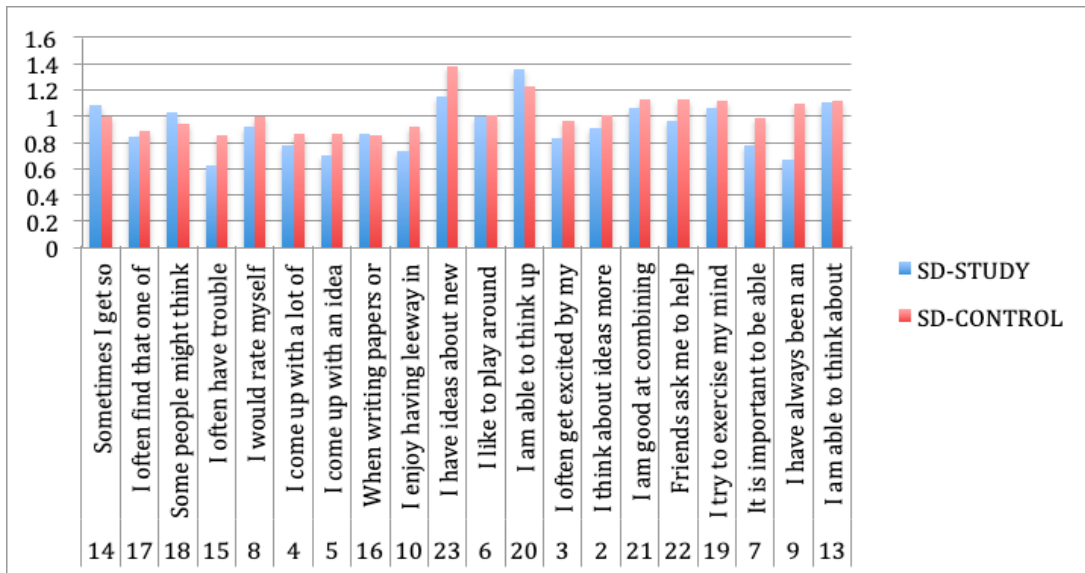
Figure 3.2. RIBS Standard Deviation Visual Comparison Chart

Statistical significance of RIBS data. In addition to a visual representation of RIBS data, a T-test was run to determine the statistical significance of this data.

In a quantitative assessment (N=39, N=225) using two validated scales for measurement, the CAQ (Carson, 2005) and the RIBS (Runco, 2001), study results indicate that artistic talent and creative thinking ability share a statistically significant positive correlation overall.

In a factor breakdown of results, however, the correlation score overall results from some areas of high significance in combination with traits of no statistical significance. See Appendix F for calculations of significance for each item on the RIBS scale.

Items of significance and high significance. In items with significant correlation, most achieve not only significance, but high significance. Study results indicate that artists identify more than non-artists to statements listed in Table 4.1 according to their corresponding levels of significance.

Table 4.1. RIBS Scale Items with Corresponding Significance Levels

Scale Item	**Significance**
I am able to think about things intensely for many hours.	Very high, <.00001
I have always been an active thinker—I have lots of ideas.	Very High, <.001
It is important to be able to think of bizarre and wild possibilities.	Very High, <.001
I think about ideas more often than most people.	High, <.01
I enjoy having leeway in the things I do and room to make up my own mind.	High, <.01
I try to exercise my mind by thinking things through.	High, <.01
I am good at combining ideas in ways that others have not tried.	High, <.01
Friends ask me to help them think of ideas and solutions.	High, <.01

I often get excited by my own new ideas.   Significant, <.05

I like to play around with ideas for the fun of it.   Significant, <.05

Items of no or low significance. Additional scale items not correlating with significance also seem worthy of report. For 80% of non-significant scale items, significance levels remain <.5.

Most interestingly, however, the four items of lowest correlation for artists are also the four items of negative valence such as "absentmindedness." This indicates that although social perceptions of artistic individuals may include negative traits, these scale items correlate with artistic talent the least. See Table 4.2 indicating the least significant correlations of creative traits to individuals with evidenced artistic ability.

Table 4.2. Creative Traits with Least Correlation to Artists

Scale Item	**Sig. Level**
Sometimes I get so interested in a new idea that I forget about other things that I should be doing.	.74

I often find that one of my ideas has led me to other ideas that have led .54

me to other ideas, and I end up with an idea and do not know where it

came from.

Some people might think me scatterbrained or absentminded .42

I often have trouble sleeping at night, because so many ideas keep .39

popping into my head.

Post-hoc Power Analysis. Although conducting a post-hoc analysis of power

yields results that are not always relevant once tests are completed, this analysis was

nevertheless conducted to assess the power of significance this correlation test was

expected to have. According to this post-hoc analysis, using the found data as the basis

of assessment, the power of significance of this correlation was determined to be .89,

indicating that the test was also expected to be significant. See Table 4.3 for the test data.

Table 4.3. Post-hoc Power Analysis

t tests - Means: Difference between two independent means (two groups)

Analysis: Post hoc: Compute achieved power

Input: Tail(s)   =   One

	Effect size d	=	0.5
	α err prob	=	0.05
	Sample size group 1	=	39
	Sample size group 2	=	225
Output:	Noncentrality parameter δ	=	2.8826479
	Critical t	=	1.6506903
	Df	=	262
	Power (1-β err prob)	=	0.8907149

Summary of correlation between artistic talent and creative thinking. Study results indicate that artistic talent and creative thinking ability share a statistically significant positive correlation overall, but this score emerges as an average between areas of high significance as noted above, and traits with no significance. An observation of interest is that the traits of negative valence sometimes associated with creative thinkers are the lowest scoring traits with no statistically significant correlation to artistic talent.

Correlation of artistic talent with creative personality

Challenges with scale selected. Using the Gough Personality Scale (1970), a classic scale in the field of creative personality measurement, subjects were assessed for their presentation of creative personality traits. However, during results analysis, it appeared that the particular scale used did not adequately measure creative traits of subjects. All study subjects identified as Orthodox Jews, and a high proportion of traits included in the Gough scale *contradicted* values taught in the Jewish religion. Additionally, some Gough scale traits conflicted with data from empirical literature published since the scale was developed in 1970.

Thus, although Gough's scale seemed to be the most widely used and valid instrument by which to measure "creative personality," a number of included traits seemed influenced by confounding factors in accurately identifying a study subject as "creative."

Confounding factor of religious identity. Before use of the instrument, two traits ("Sexy" and "Snobbish") were removed in sensitivity to religious subjects. The terms were deemed not only contradictory to religious values, but offensive enough to provoke reluctance in completing the study overall.

Upon evaluation of study responses, however, it appeared that additional terms were confounded by the religious identity of subjects. Some traits seemed to result in false negative (Type II) errors in the assessment of creative personality. Several constructs identified by Gough to indicate "creative" are concepts found within religious education as traits to avoid. Thus, subjects' relationship with such traits would

potentially be reflecting the influence of a religious education rather than a creative personality.

The two most significant of these terms were "honest" and "egotistical." According to Gough's estimation, a creative individual identifies positively with egotistical and negatively with honest, while religious education asks students to identify positively as honest and negatively as egotistical. Manifesting this possible Type II error, 87% of subjects scored contrary to a creative personality in the trait of honesty, and 78% contrary to the trait of egotistical. Determining these scores to be falsely negative Type II errors in identifying a creative personality, both were retroactively eliminated from the scale as well.

Additional traits potentially influenced by this confounding factor include "sincere," "well-mannered," and "informal," as religious education encourages the expression of these traits in contradiction to that expected of a creative personality.

Confounding factor of weak creativity indicators. Additional traits in Gough's scale seemed to be weak indicators of creativity based on research published in the half century since his scale development in 1970. For example, included in Gough's scale is the trait "Intelligent." While overlap between intelligence and creativity does exist, a distinction between these two constructs has been the subject of study and debate for decades, and thus may be questioned as a clear indicator of creativity. Similarly unclear are the traits "confident" and "self-confident." Only in a minority of cases is the trait of confidence clearly correlated with creativity.

Possibility of null responses. Another challenge in the accuracy of Gough results is the possibility of null responses, or a false positive (Type I error) resulting from an answer having been skipped. A portion of Gough's scale items are traits that subjects choose *not* to identify with, rather than choosing the trait as a positive self-description. Thus, some percent of responses may have resulted from skipped items and not intentional identification with a trait, causing false positive or Type I errors.

Modified scale use

Retroactive qualitative approach to Gough data. Due to the multiple confounding influences seeming to impact study results, although the Gough scale is widely used and validated and was included in the initial questionnaire, retroactively it was estimated as a poor quantitative measurement of creative personality for this study.

However, despite the poor assessment of the Gough scale for quantitative evaluation, including it in the study afforded the collection of data valuable for qualitative, descriptive purposes in revealing several traits with which study subjects do reliably identify.

Traits most manifest. Reporting descriptive data, the study group (N=46) consistently exhibits several notable traits on a level of significance (>.80). The traits to emerge most significantly among study subjects consist of not commonplace (96%), not conventional (89%), and not having narrow interests (83%). Thus, notwithstanding the possibility of null responses due to skipped items, by way of qualitative observation, it seems that the majority of the group does self-identify with being not conventional, not commonplace, and not having narrow interests.

Art domain correlation. Despite the multiple confounding influences on Gough's traits to adequately identify "creative personality," overall high scores in creative personality did emerge for some subjects. For exploratory purposes, retroactive analysis was made to identify any sort of domain cluster effect among subjects scoring particularly high in creative personality.

Art domains in which high scores in creative personality were most manifest were film, directing, and to a slightly lesser degree, music, both vocal and instrumental. However, further research would be required to confirm the statistical significance of this observation. The current study serves only exploratory purposes in this investigation.

Correlation of artistic talent with trait spirituality

Overview. Trait spirituality was measured using a combination of scales to assess several factors in empirical literature considered to be "spiritual." Only one of the scales used, however, has been adequately tested for validity and reliability, and thus is the only scale used in the computation of quantitative, inferential data. Results emerging from this scale are reported immediately below. The remaining scale items were included for qualitative purposes only and will be reported in the next section.

Measurement. The quantitative measurement of spirituality in this study follows the theories that "intrapersonal connectedness" as well as a "search orientation" in general are empirically supported as strong indicators of spirituality.

These specific traits can be validly and reliably measured using the Meaning in Life Questionnaire, Search for Meaning Subscale developed by Steger (2006). This subscale indicates the disposition to search for meaning and purpose in life, indicating

both strong intrapersonal connectedness as well as a search orientation in general. The MLQ has excellent reliability, test-retest stability, stable factor structure, convergence among informants, and good internal consistency, with Cronbach alpha levels for both subscales ranging from .86 to .88 (Steger et al., 2006).

Steger's instrument was tested on college age subjects in the northeastern United States, paralleling study group subjects' age and demographics, enabling his initial subjects to serve as a potential control group against which to compare study group results. While documentation online indicates that significance is demonstrated by a score of 24 out of 35, in data extracted from his initial scale development, the precise mean of his control group was 23.4 (SD 6.3) (*ibid*).

Observed data. In the current study, 42 subjects completed this scale, with one outlier eliminated from the evaluation, resulting in N=41. Out of this subject pool, 90.25% of subjects scored 24 or above, indicating that spirituality manifests at a significance level of .9 in the study group. Although the remaining 10% (9.75) scored below the control group average, scores remained 20 or above, resulting in a study group mean score of 30.12.

Details of this significance include the selection of "true" for all five questions by more than 80% of subjects. Further, 42% of subjects resulted in a *perfect* score on the measurement, answering not only "true," but "very true" to all five questions, indicating a particularly high disposition to search for meaning in more than 40% of subjects.

See Table 5.1 for the percent of subject selections of "true" or "very true" per question and Figure 4 for a visual representation of this data.

Table 5.1. MLQ subjects selecting "true" or "very true"

Question	True	Very True
I am looking for something that makes my life feel meaningful	.95	.78
I am always looking to find my life's purpose	.93	.56
I am always searching for something that makes my life feel significant	.88	.68
I am seeking a purpose or mission for my life	.85	.66
I am searching for meaning in my life	.85	.63
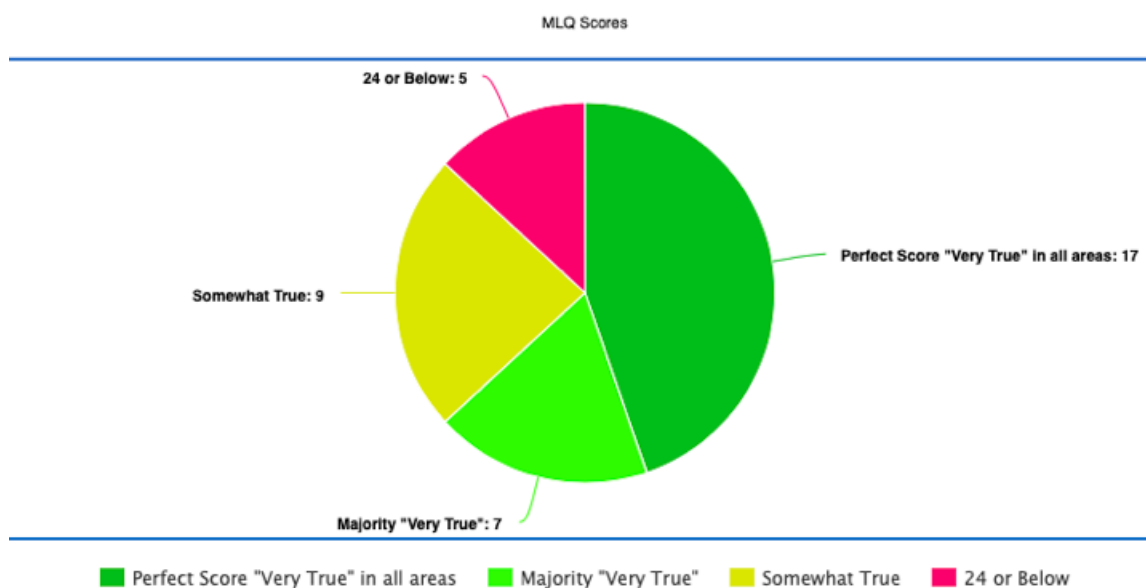
Figure 4. Study Group Scores on the MLQ

Statistical data. Based on the observed differences between the study group scores and the control group extracted from Steger's work (2006), a T-test was also run to determine the precise significance of the correlation between artistic talent and the trait of spirituality as measured by disposition to search for meaning and purpose.

The T-test was run using the study data mean of 30.12 (N=42) with standard deviation calculated to be 5.95, compared to control data (N=400) with a mean of 23.4 and standard deviation of 6.3. Due to unequal sample sizes, the t score was computed using Welch's t-test for unequal sample sizes and unequal variances. The degrees of freedom column (d.f.) was computed using the Welch-Satterwaite equation.

The results emerging from this t-test were very highly significant, indicating a p value of 2e-11, or 2 multiplied to the exponential power of -11, numerically noted as .000000000002. Thus, the correlation significance level was near perfection, or dramatically lower than both the standard correlation level of <.05 and even "high significance" correlation level of <.001.

 In sum, the correlation between artistic talent, measured in triangulation by requirement for study participation, degree of achievement and breadth of domain interests, and spirituality measured according to constructs of interconnectedness and search orientation appear to be at a level of near perfection.

See Figure 4.2 – 4.3 and Tables 5.2 – 5.4 for a bar graph representation of data, quantiles, the test mean, summary statistics, and a test results table.
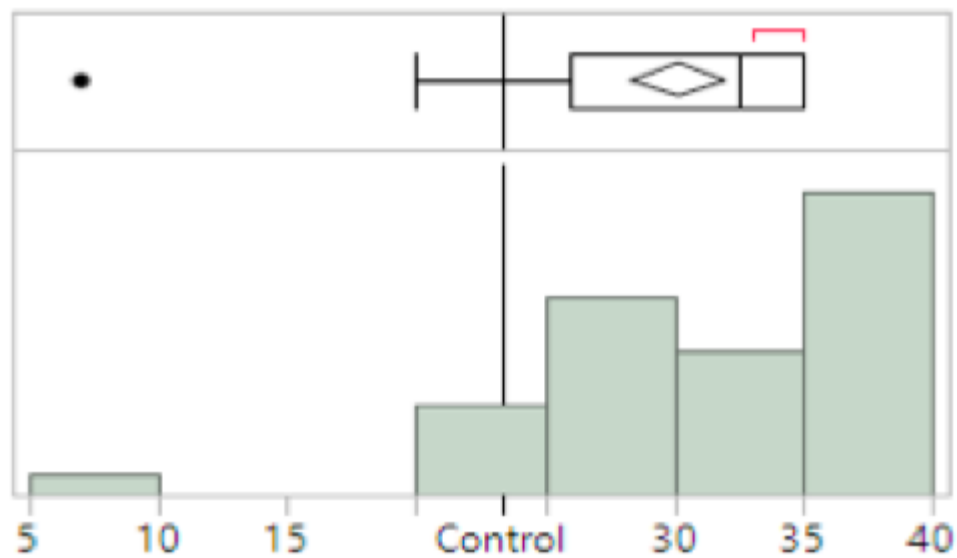
Figure 4.2. Bar Graph Representation of Test Scores

Table 5.2. Quantiles

Quantiles		
100.0%	maximum	35
99.5%		35
97.5%		35
90.0%		35
75.0%	quartile	35
50.0%	median	32.5
25.0%	quartile	26
10.0%		22.3
2.5%		7.975
0.5%		7
0.0%	minimum	7

Test Mean

Hypothesized Value	23.4
Actual Estimate	30.119
DF	41
Std Dev	5.95185

	t Test
Test Statistic	7.3161
Prob > |t|	<.0001*
Prob > t	<.0001*
Prob < t	1.0000
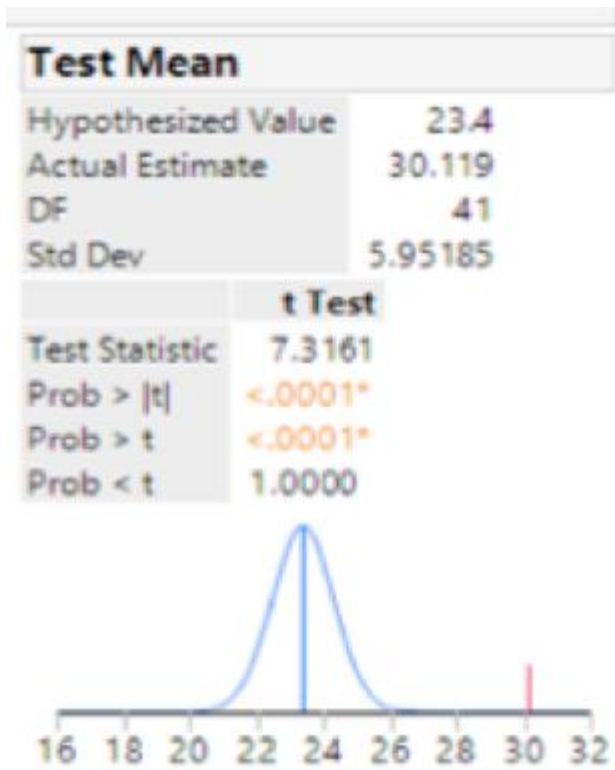
Figure 4.3. Test Mean

Table 5.3. Summary Statistics

Summary Statistics

Mean	30.119048
Std Dev	5.951849
Std Err Mean	0.9183902
Upper 95% Mean	31.973774
Lower 95% Mean	28.264321
N	42

Table 5.4. MLQ Correlation T-test Results

Mean Score	Mean Control	s.d Score	s.d. Control	t score	d.f.	p value
30.12	23.4	4.77	6.3	8.3937024 017	55.4676273 747	2e-11

Personal Trait Qualitative Data

Correlation of artistic talent and trait spirituality

Instruments used. In addition to quantitative data, qualitative data also emerged from optional questions included in the survey. These questions assess spirituality using portions of the Spiritual Orientation Inventory developed by David N. Elkins and colleagues (1988) and the Mysticism Scale developed by Ralph W. Hood (1975).

The SOI and Mysticism Scale are published scales, however, they lack extensive validity testing and the full scales are not used in this study. In the interest of keeping the study questionnaire to a reasonable duration, as well as consideration of the many confounding issues present in a study of spirituality among Orthodox Jewish subjects, only questions relating to constructs directly assessed in this study were used. These constructs find support in empirical literature as measurable aspects of spirituality such as interpersonal connectedness, transpersonal connectedness, and absorption ability.

Language of scale items was modified for use with Orthodox Jewish adolescents.

Control factors

No control group. As there was no available control group among the general population against which to compare responses of study subjects, results of study subjects alone are reported.

Control for religion. Of note is the indication that for approximately 80% of this group (79%), spirituality is viewed as a construct independent of religion. In addition to careful selection of test items, this finding may be effectively used to control for religious observance, in that although this group is religiously observant, their identification of spirituality is not based on their religious education.

Thus, for the purpose of analyzing this particular data set, religious affiliation is neutralized, distinguishing the study group from the general population as artists, with the independent variable being artistic talent.

Results

Items of significance. Subjects identified positively with a number of questions from both the SOI (Elkins, 1988), measuring interpersonal and transpersonal connectedness, and Mysticism Scale (Hood, 1975), measuring absorption ability. In the study group population, the following factors of spirituality are found to approximate statistical significance (78% or higher):

    1) Intrapersonal connectedness

- The disposition to search for meaning and purpose

- The disposition to make a difference in the world

2) Transpersonal connectedness

- Strong connection to nature

- Disposition towards "spirituality" even without religious mandate

3) Interpersonal connectedness: the disposition to easily feel awe and gratitude

4) Absorption ability: the disposition to be fully absorbed in an activity or feeling

5) Search orientation: the disposition to search for meaning

These factors, empirically indicating a disposition towards "spirituality," correlate on levels of significance with study group subjects, a group with an independent variable of "artistic ability."

See Table 5.5 for a list of specific test items indicating spirituality with high correlation to subjects with artistic ability.

Table 5.5. Spirituality Traits with .8 level of Significance

I believe that one person can make a difference in the world

When I am old and look back at my life, I want to feel that the world is a better place because I lived

I can experience feelings of awe, reverence and gratitude even in nonreligious settings

Nature inspires in me a sense of awe and reverence

I have had an experience in which I lost a sense of myself in a feeling

I am looking for something that makes my life feel meaningful

I am always looking to find my life's purpose

I am always searching for something that makes my life feel significant

I am seeking a purpose or mission for my life

I am searching for meaning in my life

Agreement strength. If "agreement strength" were to be included as a factor in measurement, more than half of study participants not only identify with these constructs positively, but also do so strongly, on a level of "very true" rather than "true" alone.

See Table 5.6 for questions in which subjects identified positively with spirituality on a level of statistical significance (above or approximately 80% of subjects), at the two rates of positive identification, "true" or "very true."

Table 5.6. Identification with Spirituality in SOI and Mysticism Scale Data

Question	True	Very True
I believe that one person can make a difference in the world	.95	.71
When I am old and look back at my life, I want to feel that the world is a better place because I lived	.88	.74

I can experience feelings of awe, reverence and gratitude even in nonreligious settings	.93	.68
Nature inspires in me a sense of awe and reverence	.90	.59
I have had an experience in which I lost a sense of myself in a feeling	.81	.52
I have had an experience in which I lost a sense of myself in an activity	.76	.55
Spirituality means being part of a synagogue and actively participating in religious activities (Reverse score)	.79	.50

Art domain correlation (exploratory). In analyzing data for indications of particular domains in which high spirituality scores may be clustered, data reveals clusters appearing in the areas of visual art, and to a lesser degree, music and film. Theoretically this indicates that individuals with skills in these domains will manifest a spiritual disposition as measured by this study more strongly than those with skills in other art domains. The study's small sample size, however, prevents conclusive data to be drawn from this observation.

Correlation of creative thinking and trait spirituality. Both creative thinking and trait spirituality are dependent variables being tested against the independent variable of artistic talent. However, since both creative thinking and spirituality were measured

according to validated scales, scores from these scales are compared and mined for observable qualitative data.

Spiritual traits in study group population. This study hypothesizes that a positive correlation will exist between creative thinking and an inclination towards spirituality. In this study, creative thinking is quantitatively measured by Ideation ability (Runco, 2001).

In the current study, several factors within the overall constructs of "spirituality" and "creative thinking" emerge as statistically significant among subjects, indicating potential for correlation between such traits.

Subject scores on the MLQ-S (Steger, 2006) correlate with artistic ability on a significance level of "near perfection" (2e-11), and some traits as measured by the SOI (Elkins, 1988) and Mysticism Scale (Hood, 1975) correlate at levels above .80 (see Table 5.6).

Creative thinking in study group population. Several factors of creative thinking as measured by the RIBS (Runco, 2001) also emerge among study subjects at levels of significance or high significance. Several statements appeared to have independent power of significance on a level of .80, or characteristic of more than 80% of subjects. The factors listed in Table 5.7 correlate with artistic ability and are found in more than 80% of subjects.

Table 5.7. Creative Thinking Traits with .8 level of Significance

I have always been an active thinker

I have lots of ideas

I enjoy having leeway in the things I do and room to make up my own mind.

I often get excited by my own new ideas.

Thus, it is 80% likely that artists will manifest the above factors of creative thinking listed in Table 5.7 as well as the factors of spirituality listed in Table 5.5.

Correlation analysis was not conducted to determine significance between these two trait groups, but for qualitative purposes, the observation may be made that all traits listed in Tables 5.5 and 5.7 appear with .8 / 80% frequency in the same individual.

Correlation of creative personality and trait spirituality. Creative personality in the current study was measured according to the Gough Personality Scale (Gough, 1970). However, based on a high proportion of possible error in using this scale accurately with religious subjects, the scale itself was eliminated as a quantitative measurement and retained for qualitative observation purposes only.

Study subjects, predominantly scoring high on artistic ability, Steger's MLQ (2006), and several traits of the RIBS (2001) also identified with several personality traits on the Gough scale (1970) at a significance level above .80. Subjects identified negatively with the traits of Commonplace (96%), Conventional (89%) and Narrow

Interests (83%). Thus, while a statistical analysis of this correlation was not conducted, it may be concluded that this study shows overlap between the traits of high search for meaning, the traits listed in Table 5.5 and the creative personal traits of "not commonplace," "not conventional," and "not narrow interests."

Summary of trait comparison data

Artistic talent and divergent thinking. Using validated scales CAQ (Carson, 2005) and RIBS (Runco, 2001), subjects (N=39, predominantly female, Mean age = 19) exhibiting artistic ability across multiple domains scored consistently higher in divergent thinking than non-artists. Artistic ability and divergent thinking correlate with significance overall, but most particularly in ten areas as listed in Table 4.1 above. Domain differences were not evaluated.

Artistic talent and creative personality. Artistic subjects were likely to significantly identify with certain creative personality traits according to the Gough Personality Scale (1970), most salient being Not Commonplace (.96), Not Conventional (.89) and Not Narrow Interests (.83). Particular domains most likely to manifest these creative traits may be filmmaking, directing, and music.

Artistic talent and spiritual inclination.

Interpersonal connectedness. According to scores on the MLQ-S (Steger, 2006), the artistically talented study group was more disposed to search for meaning and purpose in life than non-artists at a significance level of "near perfection," numerically 2e-11.

Other spiritual traits. Additional measurements of spirituality also revealed correlation significance for several traits. As measured by scales of Elkins et al (1988) and Hood (1975), subjects manifested intrinsic motivation to make a difference in the world (95%), a disposition towards awe, reverence, and spiritual connection *outside* a religious setting (93%), specific appreciation of nature (90%), and a high disposition towards "absorption," the loss of self-perception when engaged in a feeling or activity. The most likely art domains manifesting these high spirituality traits may be visual art, filmmaking and music.

Checklist of a "Creative-Spiritual" Individual. Based on results of the current study, a set of traits identifiable as either creative or spiritual occur with statistical significance in individuals disposed towards artistic ability. These traits are characterized by identification with the statements as listed in Table 5.8.

Table 5.8. Creative and Spiritual Traits of an Artist

1. I have always been an active thinker

2. I have lots of ideas

3. I enjoy having leeway in the things I do

4. I enjoy having room to make up my own mind

5. I often get excited by my own new ideas

6. I believe that one person can make a difference in the world

7. When I am old and look back at my life, I want to feel that the world is a better place because I lived

8. I can experience feelings of awe, reverence and gratitude even in nonreligious settings

9. Nature inspires in me a sense of awe and reverence

10. I have had an experience in which I lost a sense of myself in a feeling

11. I am looking for something that makes my life feel meaningful

12. I am always looking to find my life's purpose

13. I am always searching for something that makes my life feel significant

14. I am seeking a purpose or mission for my life

15. I am searching for meaning in my life

16. I am not commonplace

17. I am not conventional

18. I do not have narrow interests

The items on this list are from existing reliable and valid scales. In this study, these traits are found to correlate with artistic ability on a level of statistical significance, identifying the cognitive and emotional disposition of an artist to be both "creative" and "spiritual."

This study may be used as a foundation for future research relating to the creative and spiritual disposition of an artist, or the development of a new scale to measure a "creative-spiritual" disposition.

School Support for Creativity

The second research interest pursued in this study is how a student with above average strength in artistic talent, and through investigation of the first research interest, also creative thinking skills, creative personality, and spiritual disposition will perceive their experience of support for these strengths in their religious school environment.

This study hypothesizes that a negative correlation exists between the creative-spiritual student and his or her experience of support for creativity and spirituality in

Orthodox schooling. Data is collected using a published scale along with supplementary author-generated questions. Results from all questions are reported.

In addition, however, a group of students with the lowest perceptions of school support are isolated to form a subgroup characterized by "Perceptions of Low Support," which acts as a new study group against which the full group functions as a control. Results from the overall group and the group perceiving "Low Support" are compared with the aim of discovering patterns among students with low perceptions of support that may differ from the study group overall.

RESC Scale

Instrument overview. To evaluate school support for creativity, Mark Runco's RESC scale was used, modified to reflect language of a K-12 religious setting rather than a university department for which it was initially created. The scale consists of three sections and poses a total of 17 questions.

As the scale has neither empirical support for validity or reliability, nor a control group against which study participants can be compared, responses to this questionnaire are included for qualitative interests only.

Not all of the 54 subject participants chose to complete the questionnaire sections relating to school experiences. The subjects completing these optional sections totaled 37. One student completed the relevant questions, but was eliminated from inclusion as her school did not qualify as Orthodox Jewish.

Descriptive Data. The school about which subjects answered questions was predominantly their high school, visually depicted in Figure 5.1.

The school about which the following questions are answered is a...
Answered: 46 Skipped: 8

Choices	Response percent	Response count
elementary school	8.70%	4
middle school	4.35%	2
high school	82.61%	38
I did not attend an Orthodox school	4.35%	2
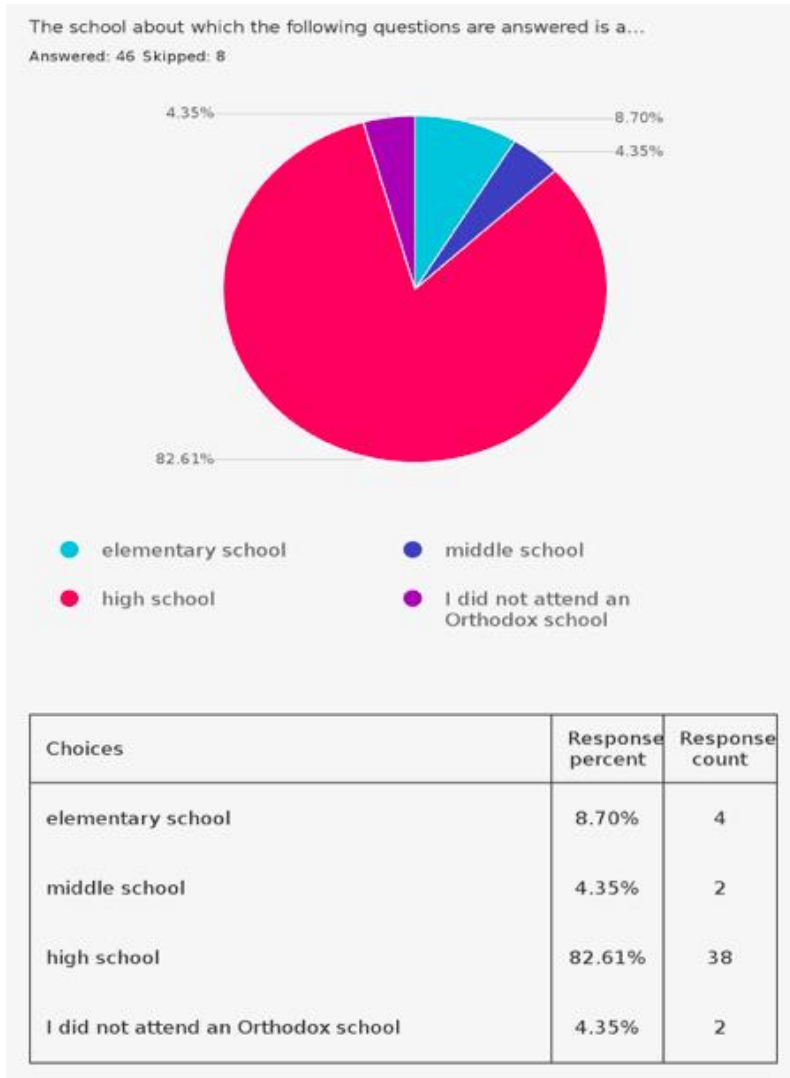
Figure 5.1. School Type

The hashkafa of the schools attended was 46% Chabad, 33% Litvish, and 15% Modern Orthodox, and 6% Other, as depicted in Figure 5.2.

Religious Outlook (Hashkafa) of Your Middle or High School
Answered: 54 Skipped: 0

Choices	Response percent	Response count
Chabad	46.30%	25
Litvish/Yeshivish	33.33%	18
Ultra Orthodox Chassidic	0.00%	0
Modern Orthodox Machmir	14.81%	8
Modern Orthodox Liberal	0.00%	0
Not Orthodox Jewish School	3.70%	2
Montessori/Alternative School	0.00%	0
Home School	0.00%	0
Public school	3.70%	2
Other (Please specify)	5.56%	3

1. Kiruv public school
2. Non-Jewish private school
3. Private school

Figure 5.2. School Hashkafa

RESC Scale Raw Data. Responses indicate that some creative students do find school support for their creativity in their school. However, some results to the contrary are worth noting.

In the current study of creative and artistic students, large portions of subjects perceived the culture of their school to support conformity rather than innovation. In particular, 64% felt that their school rewarded conformity most of the time or more, 58% were sometimes afraid to contribute new ideas and felt that innovation was not valued, 45% of students felt that their school did not encourage them to be open to new ideas and different perspectives at all, 34% were not allowed to think and act in a flexible manner at all, and 77% disagreed with the statement t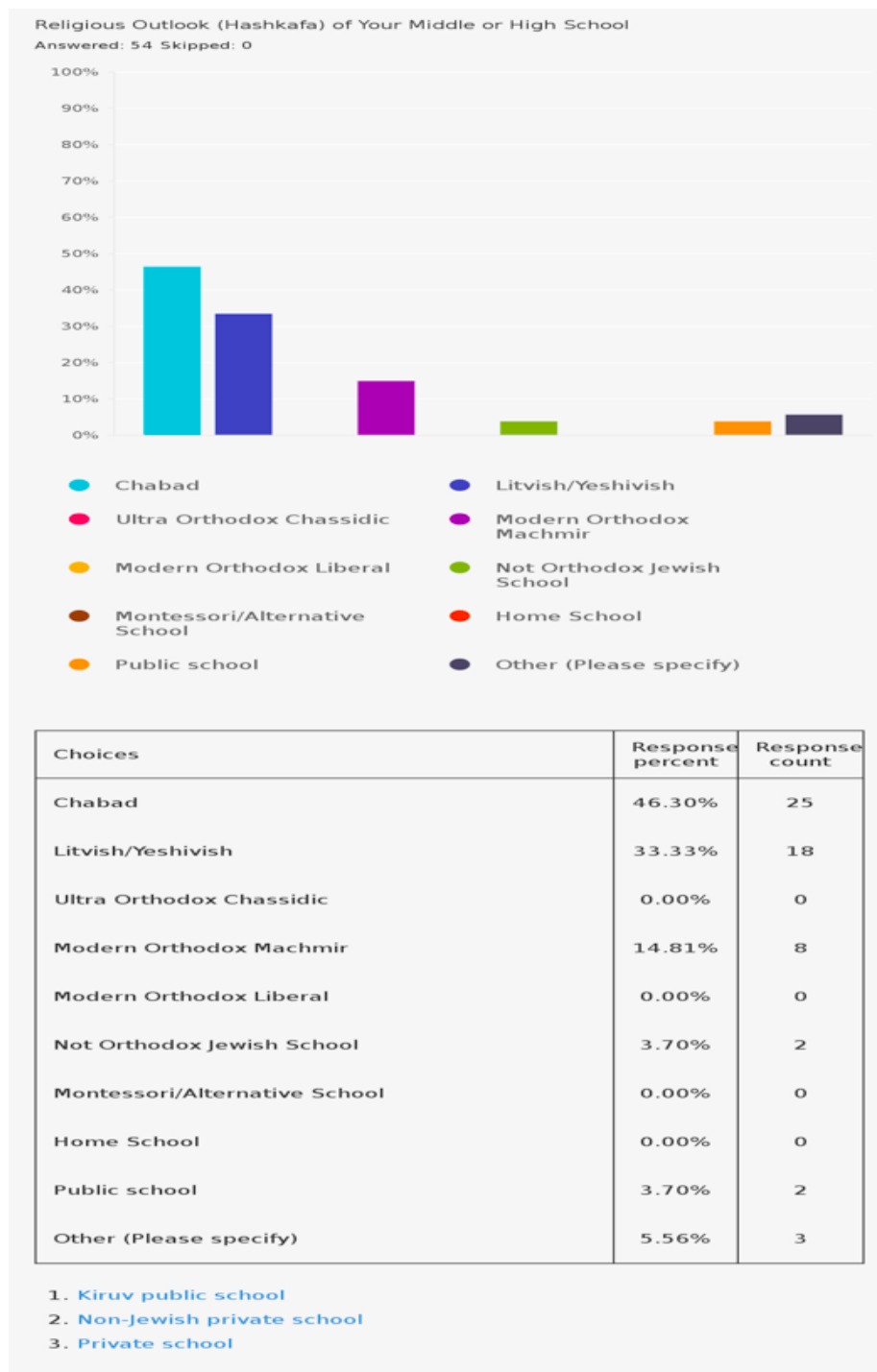hat their school's general attitude was "open and flexible." One in four students felt that their school did not hire staff or teachers who appreciated different opinions and perspectives at all.

100% of students reported that their schools relied on existing methods rather than invent new ones, and 72% of these believed this was most of the time or more. When asked whether a highly creative person would do well at their school overall, 71% of study subjects responded that highly creative students would most likely *not* do well in their school.

Despite these results relating to school support for creativity, 72% of subjects reported their own enthusiasm and commitment to completing work based on intrinsic motivation, even if investing more than teachers require.

See Tables 6.1 – 6.3 to view these responses and other related data.

Table 6.1. Does Your School…

Row	Not at all	A bit	Most of the time	Definitely	Response count
Support new ideas	15.38% (6)	46.15% (18)	23.08% (9)	15.38% (6)	39
Reward creative people	15.38% (6)	51.28% (20)	15.38% (6)	17.95% (7)	39
Hire staff/teachers who appreciate different opinions and perspectives	25.64% (10)	35.90% (14)	15.38% (6)	23.08% (9)	39
Reward conformity	10.53% (4)	26.32% (10)	23.68% (9)	39.47% (15)	38
Encourage me to be open to new ideas and different perspectives	44.74% (17)	21.05% (8)	18.42% (7)	15.79% (6)	38
Allow independent thought	20.51% (8)	33.33% (13)	30.77% (12)	15.38% (6)	39
Provide "thinking time"	48.72% (19)	28.21% (11)	10.26% (4)	12.82% (5)	39
Rely on existing methods (rather than invent new ones)	0.00% (0)	28.21% (11)	33.33% (13)	38.46% (15)	39

Table 6.2. In Jewish Studies Classes, I am…

Row	Not at all	A bit	Most of the time	Always	Response count
Confident that if I come up with a good idea, I will be rewarded	28.95% (11)	34.21% (13)	26.32% (10)	10.53% (4)	38
Encouraged to ask questions	15.79% (6)	26.32% (10)	28.95% (11)	28.95% (11)	38
Allowed to think and act in a flexible manner	34.21% (13)	36.84% (14)	18.42% (7)	10.53% (4)	38
Afraid to contribute new ideas	42.11% (16)	42.11% (16)	7.89% (3)	7.89% (3)	38
Worried about expectations	15.79% (6)	39.47% (15)	26.32% (10)	18.42% (7)	38

Table 6.3. Statements of Support for Creativity

Row	Totally Disagree	Sort of Disagree	Basically Agree	Definitely Agree	Response count
I do not have any personal investment in my projects. I am just doing what teachers ask.	31.58% (12)	39.47% (15)	18.42% (7)	10.53% (4)	38
Innovation is valued in my school.	18.42% (7)	39.47% (15)	26.32% (10)	15.79% (6)	38
The general attitude in my school is very open and flexible.	31.58% (12)	44.74% (17)	15.79% (6)	7.89% (3)	38
A highly creative person would do well in this school.	36.84% (14)	34.21% (13)	15.79% (6)	13.16% (5)	38

In sum, all subjects felt that their school relied exclusively on existing systems at the expense of creating new ones, and almost three of every four subjects disagreed that highly creative students would do well in their school. Half of all subjects felt that new ideas could be unwelcome and were definitely not rewarded, and a majority of subjects felt that that conformity to the ideas or behavior of others was rewarded instead.

Hashkafic differences relating to support for creativity. The hashkafic demographic of the schools consisted of 50% Chabad, 36% Litvish, 11% Modern Orthodox, and 3% ultra-Orthodox. Students provided a range of answers to questions relating to support for creativity in their schools. While some felt that their schools were not environments supportive to innovation, independent thinking, or new ideas, others felt that their schools were relatively adequate in these areas.

In scoring the subject responses for school support for creativity using Mark Runco's RESC as the scale of measurement, the highest score possible for school support for creativity was 51, a total of the highest rate of 3 given for "always" supported multiplied by 17 areas of school support for creativity.

The most supportive schools, ranging from to 67% to 86% in positive support for creativity were reported by 50% of the Modern Orthodox students and 31% of the Litvish students, with no Chabad students reporting school support higher than 64.7%. Overall, Chabad students scored lowest on school support for creativity, with 44% falling in a moderate range from 39% to 57%, and 44% scoring less than seventeen, having answered "not at all" for two or more questions on the scale. However, the one Ultra Orthodox

school student reported the lowest score of all the subjects, reporting that her school was "not at all" supportive in most areas.

Some hashkafic distinctions can be extracted from this data, but serve exploratory purposes only, as the subject pool size is small and the scale used has not been adequately validated.

Modern Orthodox. Modern Orthodox hashkafa, although only 11% of the total subject pool, showed disproportionate representation in responses of the highest support, with 75-100% of respondents claiming to "always" have support in many creative areas. The only area in Modern Orthodox hashkafa revealing weak support is in the confidence students have that they will be rewarded for a new idea. It may be that although new ideas and opinions are allowed and even encouraged, there is simply no system for rewarding them.

Litvish. Overall, Litvish subjects seemed to have more positive support for creativity than Chabad in many areas, and in general, more positive support than negative in most areas. The only two areas revealing poor support in Litvish schools seem to be the permissibility of "independent thought," for which no Litvish subject cited positive support, and the encouragement of new opinions, for which 46% of Litvish subjects described their school as "not at all" supportive.

Chabad. Chabad hashkafa seemed to have the greatest portion of subjects stating that their school was "not at all" supportive to new perspectives and opinions. However, several exceptions to this stand out. Relatively significant portions of Chabad respondents also cite their school to be "always" supportive in areas of reward for good

ideas, encouragement of questions, and the willingness to try new educational methods and not rely solely on pre-existing methods. This inconsistency among Chabad schools may be based on differences in perspectives of school administration or faculty, with some embracing innovation and others remaining closed to new opinions. Not exclusive to schools, however, this may be a pattern in Chabad communities in general, with some Chabad representatives or segments of established communities fully supporting innovation and others adhering strictly to traditions of previous generations.

Ultra-Orthodox. In all categories, the Ultra-Orthodox/Chareidi school student reported weak support for creativity, with her school being "not at all" supportive in 13 out of 17 (76.5%) categories of school support for creativity.

Although reported here for exploratory interests only, this preliminary hashkafic data may indicate an area worth sociological, ethnographic or anthropological investigation in the future.

See Table 7.1 indicating the hashkafic differences relating to schools' support for creativity.

Table 7.1. Hashkafic Patterns in School Support for Creativity

Question	Most Supportive ("Always")	Least Supportive ("Not at all")
Rewards creative people	50% of Mod Orth	Equal Chabad/Lit
Supportive to new ideas	75% of Mod Orth	Equal Chabad/Lit

Teachers/staff appreciate different opinions	75% of Mod Orth	39% of Chabad
Reward conformity (R)	100% of Mod Orth	50% of Chabad
Encourage new opinions	75% of Mod Orth	50% of Chabad
		46% of Litvish
Allows independent thought	100% of Mod Orth	33% of Chabad
	0% Litvish	
Rely on existing methods (R)	28% of Chabad	50% of Chabad
Questions encouraged	33% of Chabad	31% of Litvish
Allowed to think/act in flexible manner	75% of Mod Orth	46% of Litvish
		33% of Chabad
Attitude open and flexible	75% of Mod Orth	
Rewarded for good idea	33% of Chabad	50% of Mod Orth

Additional Questions. To aid further clarification of student experiences, several independent questions were added to the questionnaire following the scales. These questions collected information regarding students' social success, academic success, experience of treatment by teachers, and experience of talent recognition.

Social success. The study group was asked whether they fit in well socially, did not fit in well, or experienced a polarized version of either, having no friends or enjoying extreme popularity. For the study group overall, 44% of students reported that they do not fit in well or worse. See Figure 7.

Socially (among friends), the following statement is most true

Answered: 39   Skipped: 15

- I am one of the most popular students in my class or school
- I fit in well and have nice friends
- While I do have some friends, I don't really fit in with the majority of my classmates
- I honestly don't even have one good friend; I really don't fit in with my peers
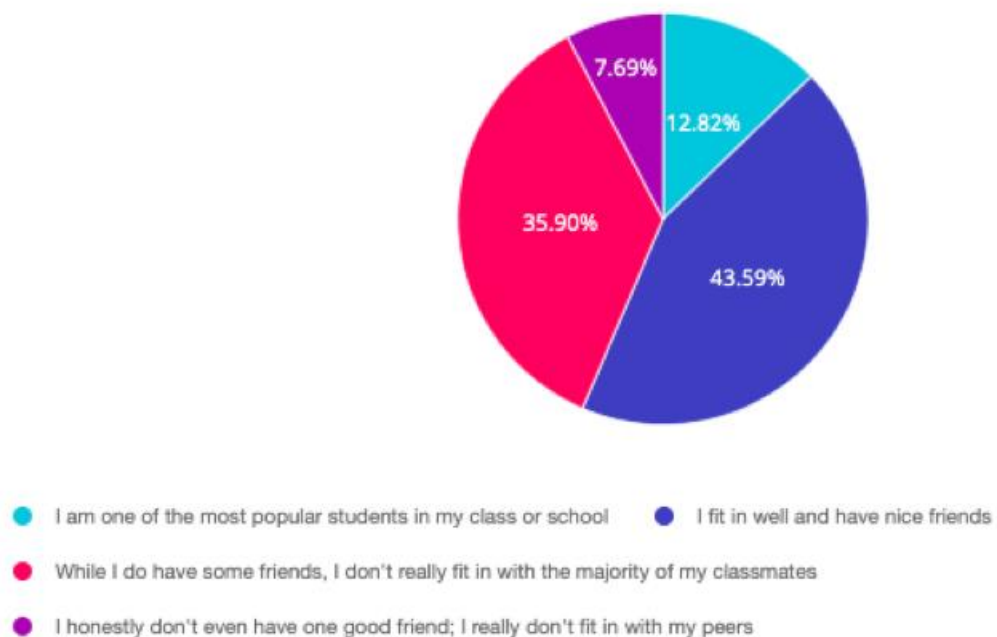
Figure 6.1. Social Success for Study Overall

    Academic success. In the study group of artistically talented subjects, 1 in every 6 students reported academic success on a full grade level above peers, and 61.5% described themselves "among the better students academically" if not explicitly accelerated. See Figure 6.2 for a visual representation of this data.

Academically (in class), the following statement is the most true:
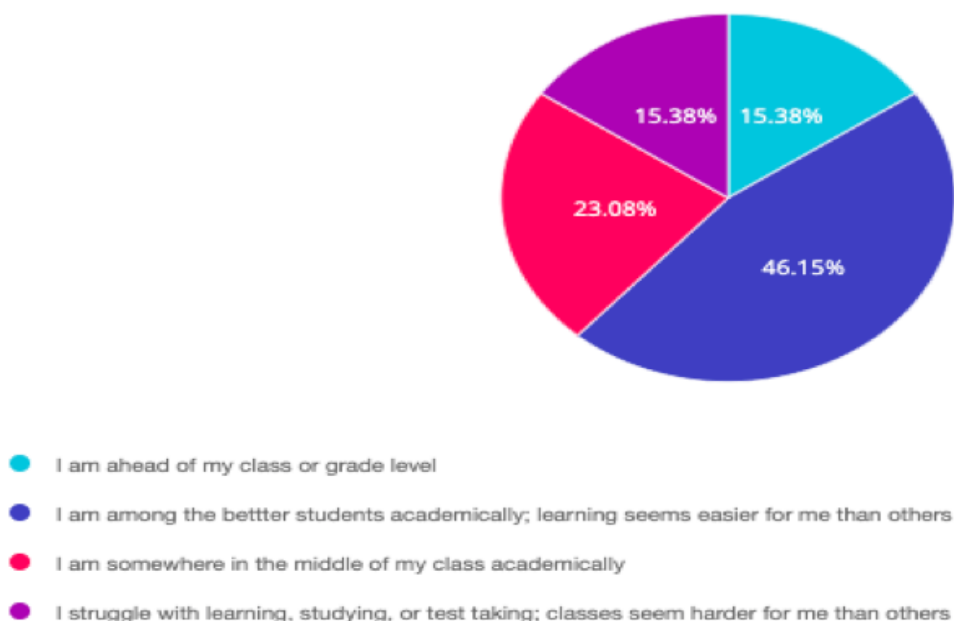
Answered: 39   Skipped: 15

15.38%   15.38%

23.08%

46.15%

● I am ahead of my class or grade level

● I am among the bettter students academically; learning seems easier for me than others

● I am somewhere in the middle of my class academically

● I struggle with learning, studying, or test taking; classes seem harder for me than others

Figure 6.2. Academic Success – Overall Study Group

Perception of treatment by teachers. Only 25% of students in the overall study group felt treated similarly to their peers, with 75% feeling either favoritism or the sense that teachers were threatened by them.

Appreciation of skills outside the classroom. In the overall study group, the majority of students (71%) responded that they had "many strengths that I don't feel are measured, understood or appreciated."

Summary of additional question results. Responses to additional questions indicated that artistic students are almost half (44%) likely to not fit in with peers, more than half (62%) likely to excel academically, and more than 70% likely to feel that

teachers treat them differently than peers and that many of their strengths have gone unrecognized.

Emergence of a "low support" subgroup. Based on a preliminary analysis of responses, although some students reported satisfactory environmental support for their creativity, others rated their school support to be low. In an effort to identify any underlying differences between students who felt supported and those who did not, whether related to personal traits, hashkafa or any other pattern, a subgroup was formed to enable an evaluation of these students in comparison to the overall group.

Qualifications for the group. In total, 14 students, or 39% of all the students, responded "not at all" to the question "Would a creative student do well in this school?" and these 14 also scored the lowest in overall support for creativity, forming a natural subgroup of students who believed their school to be an environment of "low support." The 14 lowest scoring students ranged from 4 to 22 out of 51.

Using the 14 lowest scoring students as a group characterized by "low school support for creativity," based on their low scores on the RESC scale measuring Creative Environment, some additional assessments can be made regarding patterns in creative or spiritual traits unique to this particular group.

This group is referenced in the following section as the group called "Low Support" or "LS."

Descriptive data.

Hashkafa. Hashkafically the group of 14 students consisted of seven Chabad, four Litvish, two modern Orthodox and one Ultra Orthodox student. These numbers appear to be proportionally parallel to the demographic of the overall study group, potentially rendering hashkafa insignificant. The only hashkafic surprise was that 50% of the Modern Orthodox students fell into this category. However, the Modern Orthodox subjects did score highest of the group of 14 (21-22 out of 51).

Age. Similar to hashkafa, the mean age of the subgroup had no clear departure from the overall group. The subgroup consisted of subjects predominantly 18 years of age (60%), with equal, smaller portions of the group below 18 (20%), and ages 21-24 (20%). Thus, this subgroup mean was approximately 18 years of age, only minor departure from the 19 years of age mean of the study group overall.

Low Support group distinctions from additional questions. In the section of independent questions in the study, some additional information was collected regarding how subjects manage socially, academically, in relationships to teachers, and in how valued they feel regarding their creative abilities. For these questions, the subgroup was evaluated at N=12, as two of this group had skipped these additional questions.

Social Experience. When compared to the overall study group, proportionally the Low Support subjects fell disproportionately into the two most extreme categories, with 50% claiming to have no friends at all or to be the most popular in their class, verses 20% representation in these extreme groups in the study group overall. See visual

representation of Low Support group social success in Figure 6.3, and refer to Figure 6.1

above for a visual representation of the social success for the study group overall.
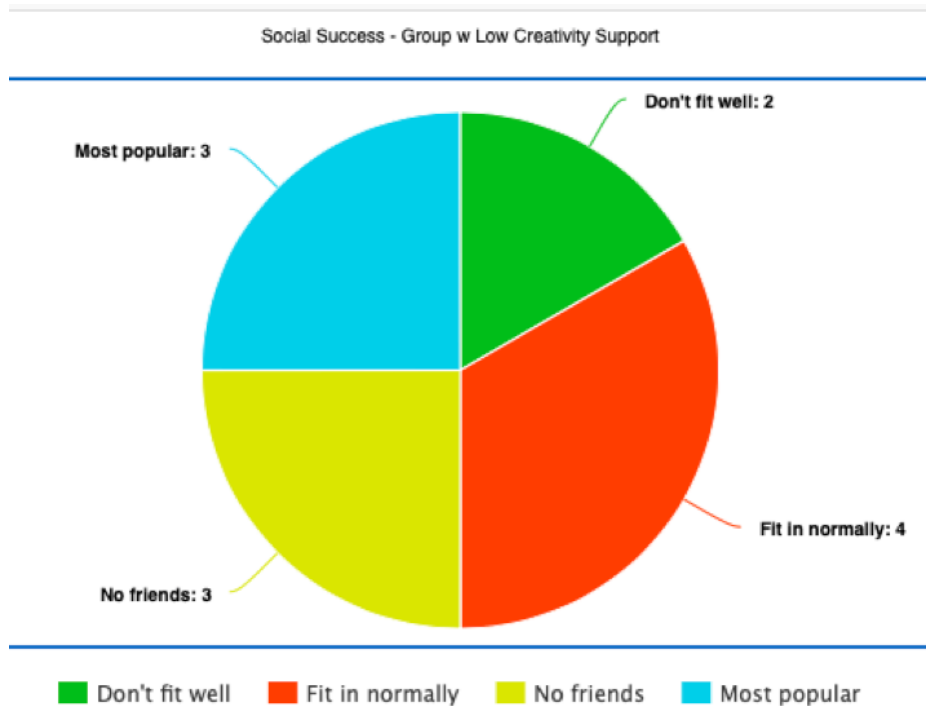

Figure 6.3. Group with Low Creativity Support: Social Success

Thus, it might be said that the student group perceiving their school to be low in

support for creativity was also characterized by social extremes, predominantly either

experiencing extreme popularity or complete lack of peer group. In comparison to the

overall group, which also had a large proportion (44%) of students who did not fit in

well, the Low Support group reflected a similar pattern of responses but to a more

pronounced degree.

Academic Experience. Academically, from the subgroup group N=12, a

statistically significant portion (83%) stated that they were academically either more

successful than their peers or less successful, with only 16% of the students identifying

themselves as academically on par with their peers. Thus, it might be concluded that the group perceiving their school to be lowest in support for creativity can also be characterized as having different academic needs than their peers, in that they were either ahead or behind, but not typically on par with their class. Parallel to social experiences, in comparison to the overall group, the Low Support group reflected a similar pattern of responses but to a more pronounced degree.

Notably, however, the rise in academic differentiation from peers was characterized by disproportionate growth in the area of accelerated academic status, being fully "ahead of my class or grade level," in contrast to descriptions of "easier" or "more challenged" levels alone. A full 25% or one in every four cases appeared to fall into this accelerated category, higher than the 15% (1 in 6) in the group overall.

See Figure 6.4 for a visual representation of the Low Support group academic success, and refer to Figure 6.2 for comparison with the academic success in the group overall.
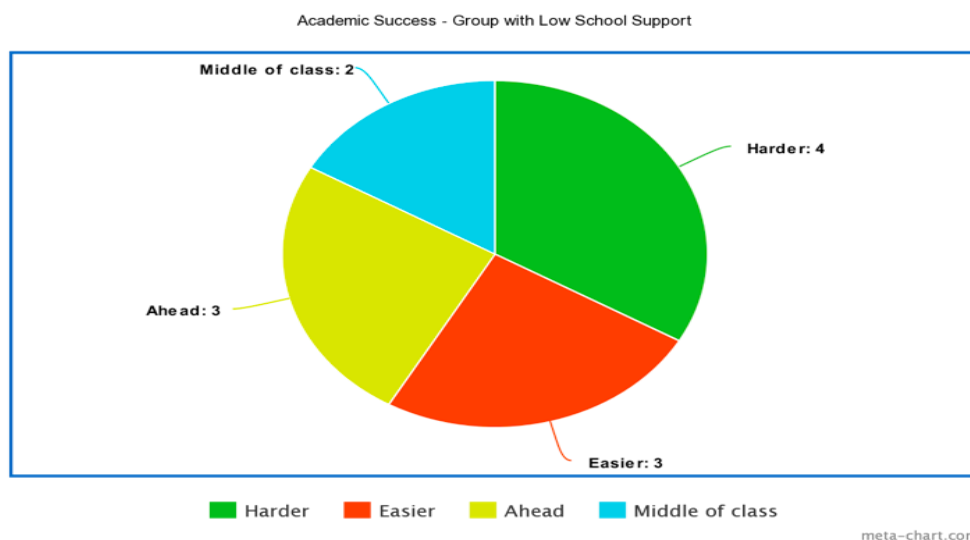

Figure 6.4. Group with Low Creativity Support: Academic Success

In sum, for questions relating to social and academic success in relation to peers, the Low Support group reported similar response patterns to the group overall, yet tended towards greater extremes than the group overall, and also appears more likely to be explicitly gifted.

In the remaining two questions, perceived treatment by teachers and perceived appreciation of talents outside the classroom, the Low Support group demonstrated an even greater degree of distinction from the study group overall. The Low Support group appeared to be homogeneous in their responses and higher than responses in the group overall.

Perceived treatment by teachers. In the LS subgroup (N=12), only two students felt that teachers treated them similarly to their peers. The majority of students (83%) felt that teachers treated them differently than their peers. They responded that teachers either favored them above others or felt threatened by them, without a middle ground. This pattern of responses is similar to, but more extreme than responses to this question from the study group overall, in addition to reaching a degree of statistical significance. Thus, it may be concluded that the LS group can be characterized as feeling "alternatively favored or threatened by teachers" and unlikely to be treated the same as their peers.

Appreciation of skills outside the classroom. A final question in this section inquired whether students felt they had skills outside the classroom that were appreciated. While in the overall study group, 71% of students responded that they had "many strengths I don't feel are measured, understood or appreciated," in the LS subgroup

(N=12), this percent climbed above statistical significance (83%). Thus, while the pattern between the overall group and the subgroup appears similar, the slight increase to a level of significance in the subgroup may indicate that having "many strengths that are not measured, understood or appreciated," is particularly and significantly characteristic of students who perceive their school to offer low support for creativity.

In sum, although the study group of artists overall exhibited similar patterns to the Low Support group, isolating the low support group served to further distinguish the experiences of creative students as well as bring these experiences to levels of statistical significance.

RIBS scores in Low Support Group. Although the LS subgroup of N=14 is a relatively small subject pool, analysis and some qualitative observations may be made based on data that emerges.

In the overall study group, a portion of students scored exceedingly high in creative thinking, or "Ideation" ability on the RIBS, scoring above 4.0 when the control group average was closer to 2.5. In the overall study group, these high scoring students represented 15% of the overall group population, but in the Low Support subgroup, the percent of high scoring students climbed to 50%. Thus, from among (N=39) Orthodox Jewish students with ability in the arts, there is a 1:2 ratio that a student scoring high in creative thinking/ideation ability will also feel that their school does not offer adequate support for creativity. Further, the likelihood of a student feeling their religious school is unsupportive to creativity more than triples when that student possesses above average skill in creative thinking.

This can be contrasted to the mid-scoring students for whom only .25 appeared in the LS subgroup, indicating that for students with "above average but not extreme ability" in creative thinking/ideation, only 1:4 will perceive low support for creativity in their school. No student in the study scored below a 2.7 on the RIBS assessment, thus students with "low" scores in creative thinking/ideation cannot be evaluated.

Spirituality in Low Support group. Some interesting observations emerge when reviewing the Low Support group (N=14) scores in the area of "Trait Spirituality" in comparison with the study group overall (N=37). The "Low Support" subgroup is comprised of students who perceive their school environment to offer low support in the area of *creativity,* but surprisingly, this subgroup exhibits noticeable *strength in the trait of spirituality*.

Although support for an overlap between spiritual and creative traits does exist in empirical literature and the study itself was designed to test for evidence of this overlap, results pointing to this overlap nevertheless seem remarkable.

What emerges from an analysis of the LS subgroup data is that the students who score lowest in their perception of school support for creativity are also the *highest* scoring in a number of spiritual traits.

These spiritual traits are culled from the SOI (Spiritual Orientation Inventory) developed by Elkins in 1988. Although the SOI has been used in empirical literature to evaluate spirituality, its reliability and validity were not assessed to be strong enough for use as a quantitative measurement in this study, and was thus included only for the

collection of qualitative data. Therefore, the following related observations are qualitative in nature.

In most cases, the overall study group (N=37) scored high in Trait Spirituality according to the SOI measurement. For example, from among the group overall, 95% of students generally agreed (selection of "True") with the statement "I believe that one person can make a difference in the world" and 90% responded that "nature inspires in me a sense of awe and reverence."

Aside from these two statements, however, the LS group scored higher in the majority of spiritual areas. Further, in the majority (79%) of questions, the Low Support group had a higher likelihood of strong agreement (answering "Very True") rather than general agreement (answering "True" alone). See Table 7.2 indicating SOI scores comparing the overall group with the low support group. Greater agreement strength among LS subjects is noted in bold text.

Table 7.2. SOI Scores on Low Support Group vs. Subjects Overall

Question	True		Very True	
	Overall	**LS**	**Overall**	**LS**
I believe that one person can make a difference in the world	95%	93%	**71%**	**79%**

I want to feel that the world is a little better place because I lived	**88%**	**93%**	**74%**	**86%**
I can experience feelings of awe, reverence and gratitude even in nonreligious settings	**93%**	**100%**	**68%**	**77%**
Nature inspires in me a sense of awe and reverence	90%	85%	**59%**	**69%**
I have had an experience in which I lost a sense of myself in a feeling	**81%**	**93%**	**52%**	**79%**
I have had an experience in which I lost a sense of myself in an activity	**76%**	**86%**	**55%**	**71%**
Spirituality means being part of a synagogue and actively participating in religious activities (R)	79%	79%	**50%**	**71%**

Outlier Subject. An additional connection between creative and spiritual strengths emerges from the evidence of one subject with outlier scores in two seemingly unrelated areas, "school support for creativity" and spirituality scores measured by Steger's MLQ.

This one student scored uncharacteristically low on Steger's MLQ, contradicting all other subject scores in the study, deviating 22 points from the group mean. Her scores indicated that she had virtually no interest in searching for meaning or purpose in her life. Her scores on questions relating to spirituality from Elkins' SOI were compatible if not above average in spirituality overall. Thus, it was only the area of "search orientation" in which she notably stood out.

From analysis of this subject's scores in other areas to determine any potential unique patterns, what emerged was a reverse, yet equally contradictory score pattern in the area of school support for creativity, also a deviation of 18 points from the group mean. This one student had rated her school to be exceedingly high in the area of school support for creativity. In particular, she described her school environment as "always true" in the following areas:

- Supports new ideas
- Rewards creative people
- Encourages me to be open to new ideas and different perspectives
- Allows independent thought
- The general attitude in my school is very open and flexible
- Students allowed to think and act in a flexible manner
- Encouraged to ask questions
- Innovation is valued in my school
- Confident that if I come up with a good idea, I will be rewarded
- Provides "thinking time"
- A highly creative person would do well in this school

Thus, while this student did not deviate from the mean in areas of spirituality as measured by scales of Elkins (1988) and Hood (1975), indicating high spirituality in other areas, her outlier score on the MLQ did not seem to indicate an absence in spirituality overall. Rather, because her scores deviated in two specific areas, her results may be particular to these two areas alone. Results indicate the possibility of a correlation between an environment highly supportive to creativity and the absence of need to search for meaning and purpose in life.

Although this observation is based on an outlier subject and relies on data partially qualitative in nature (RESC measuring school support for creativity), it is nevertheless a curiosity worth further investigation.

School Support for Spirituality

"Alienators and Connectors" Scale Overview

Scale development. To evaluate the spirituality of a school environment, a questionnaire was developed based on the research of David Pelcovitz, Scott Goldberg, and Jordan Rosenberg assessing the elements of Orthodox Jewish religious school settings that connect or alienate students regarding spirituality. This research was conducted as part of a project supported by the AVI CHAI Foundation called RUACH, "Religious Understanding in Adolescent Children" and published in the 2011 issue of *Prizmah*.

From this qualitative research, distinct actions and language emerged as ways to "connect" students to greater spirituality or "alienate" them from it. Based on the research results, three areas of potential connection or alienation were identified. A 32-question scale was developed based on the research of RUACH. The ways to connect students or alienate them from spirituality were segregated into the three subscales of Reflection, Experience of Authority, and Perception of Authenticity.

These three areas parallel the three primary categories of *connectedness* as described in empirical literature. The area of "reflection" parallels the domain of intrapersonal connectedness, or connection to the self. The area of "experience of authority" parallels the domain of transpersonal connectedness, or connection to a higher authority, and the area of "perception of authenticity" parallels the domain of intrapersonal connectedness, or the feeling of connection to others.

Subject descriptive data. For the measurement of school support for spirituality, 37 subjects submitted complete responses, thus N=37 for data regarding subjects' experiences of school support for spirituality.

The 37 schools represented a range of hashkafic groups in Orthodoxy spread over the denominations of Chabad (46%), Litvish (33%) and Modern Orthodox (15%).

Scale results. While subjects did report some positive experiences, the proportion of alienating practices may seem striking for such a high volume and representative range of Orthodox high schools. This portion of the study, however, may be viewed as exploratory only. The data revealed can be helpful in indicating areas of support for spirituality that may benefit from modification or further investigation.

Reflection Subscale. This subscale is composed of 11 unique questions emerging from the RUACH research regarding practices involving personal reflection, such as prayer and belief.

Questions associated with traditional religious practice. One question resulted in data that might be expected of a religious school environment. When asked whether serious focus on prayer is welcome and respected by adults, 84% of subjects reported that serious focus on prayer is "always" welcome and respected by adults. Aside from this expected result, however, other findings seemed surprising in association with schools characterized by a commitment to traditional religion.

For example, when asked if focus on prayer was similarly welcomed and respected by peers, 70% of subjects reported that it was not always welcomed or respected. Subjects reported in almost half of cases (49%) that prayer was, rather, sometimes or always considered to be "socially awkward."

When asked if speaking about G-d, faith and belief is common in school, only 40.5% of subjects reported that it was always common, leaving nearly 60% of schools for which speaking about G-d, faith and belief was not a common occurrence, and 33% of subjects reported that these subjects were addressed in school rarely or never. While 65% of subjects reported that opportunities were not always available to speak with an adult about G-d, more than half (51%) reported that *opportunities to speak with an adult about G-d were rarely or never* available.

 In 43% of cases, subjects reported that questions of belief and faith are sometimes or always resisted, criticized or penalized, and in 82% (N=37) schools, questions of belief in G-d or faith would be considered a problem for students at least sometimes.

Spiritual practices not always associated with traditional religion. The practice of "introspection," although not classically associated with traditional religious practice, was overwhelmingly absent from the majority of Orthodox schools. Subjects reported in 78% of cases that time in school was rarely or never designated for personal introspection.

Unrelated to religion, the study also revealed that more than half of the schools included did not regularly encourage questions in general (54%), and reported near or complete absence of time for deep conversation as well as opportunities related to music, art, creative writing or nature (51%). While these practices similarly do not explicitly aid religious education, their absence may impact students prone to curiosity, meaning, and artistic expression.

See Table 8.1 for a list of Reflection subscale questions and student responses.

Table 8.1. Reflection Subscale

Row	Never True	Rarely True	Sometimes True	Always True	Response count
Questions of belief in G-d or faith/emuna are not a problem	15.79% (6)	26.32% (10)	39.47% (15)	18.42% (7)	38
Questions of belief and faith are resisted, criticized or penalized	21.62% (8)	35.14% (13)	32.43% (12)	10.81% (4)	37
Questions in general are welcome and encouraged	2.70% (1)	16.22% (6)	35.14% (13)	45.95% (17)	37
Serious focus on tefillah is welcome and respected by adults	0.00% (0)	2.70% (1)	13.51% (5)	83.78% (31)	37
Serious focus on tefillah is welcome and respected by peers	0.00% (0)	21.62% (8)	48.65% (18)	29.73% (11)	37
Serious focus on tefillah is socially awkward	27.03% (10)	24.32% (9)	37.84% (14)	10.81% (4)	37
Speaking about G-d, faith, and belief is common	10.81% (4)	21.62% (8)	27.03% (10)	40.54% (15)	37
School days include time for deep conversations	24.32% (9)	27.03% (10)	40.54% (15)	8.11% (3)	37
School designates time for personal introspection	43.24% (16)	35.14% (13)	13.51% (5)	8.11% (3)	37
Opportunities exist to speak with an adult about G-d	16.22% (6)	35.14% (13)	13.51% (5)	35.14% (13)	37
Opportunities exist to connect through music, art, creative writing, or nature	16.22% (6)	35.14% (13)	29.73% (11)	18.92% (7)	37

Authority Subscale. The second subscale as developed from the RUACH research data concerns the relationship students have with religious authority, whether in the form of teachers or religious law itself.

Strong evidence of alienating practices. In an astounding 97% of schools, subjects reported that religious teachers sometimes or always believe they have the right answer in matters of faith, and in 100% of cases, students' "religious behavior" is not always their own business. In 75%, it was rarely or never true that their behavior was "no one else's business." Although these numbers may be expected in extreme religious enclaves, responses reflected Modern Orthodox subjects as well.

Subjects felt that in general, religion was not always meant to be pleasant (95%). In more than half of cases (51%) it was *rarely or never* meant to be pleasant, and 84% of students felt that religious law was explicitly meant to control them. In 65% of cases, the connecting practice of choosing one's own prayers was rarely or never permitted, and in 36% of cases it was explicitly prohibited. Openness to differing interpretations of law was rarely or never a school policyin 49% of cases.

Focus on behavioral expectations rather than internal experience. In terms of schools' focus on extrinsic behavioral expectations rather than the meaning of practices, behavioral expectations were sometimes or always the focus in 81% of cases when learning about laws, and 67% when learning about prayer. Also, irregardless of internal feelings or beliefs, not meeting behavioral expectations was penalized in 65% of cases. In the context of prayer, teachers sometimes engaged in alienating actions of shushing, snapping or tapping students on the head in the majority of cases (56%), and in 35% of schools this occurred "always."

Areas outside of religious law. Several questions addressed the influence of religious authority outside of religious practice itself. In 76% of instances, students reported that they were not always free to engage in personal relationships they chose, and in 43% of cases were rarely or never permitted to engage in relationships of their choice.

Teachers as authority figures. Potentially the most distressing data emerging, however, is that In 92% of 37 different schools across multiple religious outlooks (Chabad, Litvish & Modern Orthodox), religious teachers did not always model humility,

and that in almost half of these schools (46%), teachers rarely or never modeled this and other traits theoretically expected from religious adults.

See Table 8.2 – Experience of Authority Subscale for survey questions and responses.

Table 8.2. Authority Subscale

Row	Never True	Rarely True	Sometimes True	Always True	Response count
I am free to engage in the personal relationships I choose	24.32% (9)	18.92% (7)	32.43% (12)	24.32% (9)	37
My religious behavior is no one else's business	45.95% (17)	29.73% (11)	24.32% (9)	0.00% (0)	37
Limudei Kodesh teachers model humility, non-judgment, and imperfection	16.22% (6)	29.73% (11)	45.95% (17)	8.11% (3)	37
Limudei Kodesh teachers believe they have the right answer in matters of faith	0.00% (0)	2.70% (1)	56.76% (21)	40.54% (15)	37
Halacha is always black and white – acts are either permitted or prohibited	8.11% (3)	10.81% (4)	40.54% (15)	40.54% (15)	37
Not everything in halacha is black and white – there can be many ways to see the same law	10.81% (4)	37.84% (14)	40.54% (15)	10.81% (4)	37
I can daven using the tefillot I personally choose	36.11% (13)	27.78% (10)	25.00% (9)	11.11% (4)	36
I can add personal prayers to the tefillot provided when I need to	11.11% (4)	16.67% (6)	22.22% (8)	50.00% (18)	36
During davening, teachers may shush, snap, or tap me on the head	27.03% (10)	16.22% (6)	21.62% (8)	35.14% (13)	37
Not meeting the behavioral expectations of tefillah can result in penalty	16.22% (6)	18.92% (7)	37.84% (14)	27.03% (10)	37
Learning tefillah tends to focus more on behavioral expectations than on spirituality	2.78% (1)	30.56% (11)	36.11% (13)	30.56% (11)	36
Learning halacha leads to focus more on behavioral expectations than on spirituality	2.70% (1)	16.22% (6)	51.35% (19)	29.73% (11)	37
Halacha is meant to enable us to experience simcha/joy	18.92% (7)	32.43% (12)	43.24% (16)	5.41% (2)	37
Halacha is meant to control our behavior	2.70% (1)	13.51% (5)	54.05% (20)	29.73% (11)	37

Authenticity Subscale. The final subscale of the "Spiritual Alienators and Connectors Environmental Measurement" scale based on RUACH research relates to

connection to others and feelings of authenticity that students experienced in their school environment.

Personal relationships. Although personal connection with teachers is not necessarily expected of religious education, nearly half of study subjects (49%) never or rarely had a close relationship with religious teachers, and never or rarely did they feel religious teachers cared about their personal well-being (46%). In only 13% of cases did subjects feel that religious teachers reliably cared about them personally. In a majority (68%) of cases, teachers were not available for speaking personally outside of class. In terms of speaking about their own relationship with G-d and their own religious practice, this rarely or never occurred in the experiences of almost half (46%) of study subjects; personal stories were also rarely or never shared (56%).

Relationship to G-d. Despite the alienating experience students may have in the absence of personal relationships with religious teachers, further results emerged that may be unexpected for a religious school. More than half of study subjects (56%) reported that they were rarely or never encouraged to engage in a personal conversation with G-d.

Perception of teachers. Finally, in a majority of cases (69%), students sometimes encountered teachers who did not seem to be honest, consistent, and sincere, with almost 1 in 5 students (19%) encountering these teachers *always*.

See Table 8.3 – Authenticity Subscale for survey questions posed and student responses.

Table 8.3. Perception of Authenticity / Personal Connection to Others

Row	Never True	Rarely True	Sometimes True	Always True	Response count
I have a close relationship with Limudei Kodesh teachers	24.32% (9)	24.32% (9)	45.95% (17)	5.41% (2)	37
Limudei Kodesh teachers are available and open to speaking with me personally outside of class	5.41% (2)	16.22% (6)	45.95% (17)	32.43% (12)	37
Limudei Kodesh teachers speak about their own relationship with G-d and their own practice	21.62% (8)	24.32% (9)	29.73% (11)	24.32% (9)	37
Limudei Kodesh teachers care specifically about me, my life, and my personal well-being	16.22% (6)	29.73% (11)	40.54% (15)	13.51% (5)	37
I am encouraged to have a personal conversation with G-d through speaking or writing a letter	32.43% (12)	24.32% (9)	32.43% (12)	10.81% (4)	37
Before tefillah, other students or teachers share inspiring stories	32.43% (12)	24.32% (9)	40.54% (15)	2.70% (1)	37
I have met Limudei Kodesh teachers who do not seem to be honest, consistent and sincere Sometimes, expectations seem higher for students than for teachers	8.33% (3)	22.22% (8)	50.00% (18)	19.44% (7)	36

Summary of spirituality support. Spiritual support in a school environment was measured using a scale based on the research of RUACH (Pelcovitz, Goldberg & Rosenberg, 2011) indicating elements of an environment that connect students to spirituality or alienate them from it. Study data was based on reports regarding 37 Orthodox high schools spanning the religious philosophies of Chabad (46%), Litvish (33%), and Modern Orthodox (15%).

Although an average of 1:2 study subjects did appear to report "connection" in multiple ways, the remaining half, often as high as 80%, experienced spiritual alienation as well. In particular, this statistically significant level of alienation was reported regarding emphasis on behavioral expectations rather than on the meaning of practices (81%), experiencing problems if beliefs in G-d or faith were questioned (82%), meeting religious teachers who sometimes did not model humility (92%), and feeling that religion was primarily meant to control them (83%). In a study involving N=37 Orthodox high schools,

School support scales data overview

In a study involving N=37 Orthodox high schools, school environmental support for creativity and spirituality was measured according to two scales respectively. Support for creativity was measured using Marc Runco's RESC, and support for spirituality was measured using a scale based on research of the RUACH study (2011).

Hashkafic observations. The lowest support for creativity as measured by Marc Runco's RESC appeared under the hashkafa of Ultra-Orthodox. The most creatively supportive schools appeared to be Modern Orthodox and Litvish, with Chabad schools reporting the lowest support for creativity outside of Ultra-Orthodox.

However, Chabad schools also presented several exceptions to low creative support overall. In a number of Chabad schools, creative support was reported to be high in areas of reward for good ideas, the encouragement of questions, and willingness to try new educational methods. These exceptions may reflect general Chabad debate between the prioritization of traditional customs or the embrace of modernity, whereby schools evaluated in the study may be administered by proponents of one position or the other.

In school support for spirituality, this hashkafic pattern seemed similar. Among the least supportive schools, Chabad had disproportionate representation, and in many areas, the top most supportive schools were consistently Litvish and Modern Orthodox.

Experiences regarding support for creativity. The majority of students felt that their schools rewarded conformity, did not encourage new ideas or different perspectives,

and engendered fear of contributing new ideas. 71% believed that a highly creative

student would not do well in their school.

   Characteristics of students perceiving low creative support. According to a more

in-depth analysis of study results and the creation of a subgroup to compare students with

perceptions of lowest support for creativity (N=14) with the group overall (N=37),

students perceiving their schools to be lowest in support for creativity presented several

notable characteristics as listed in Table 8.4.

Table 8.4. Low Support Group Characteristics

Three times more likely to present exceptional ability in divergent thinking
Experience extremes from teachers in treatment either as beloved or as a threat (83%)
Experience a social extreme of being the most or least popular (67%)
Differ academically, either struggling behind or excelling above peers (83%)
One in four present academic/intellectual giftedness (full grade level ahead of peers)
Have many unappreciated talents outside of class (83%)
Exhibit a search orientation / disposition to search for meaning (90%)

Demonstrate absorption ability (tendency to lose sense of self when engaged in activity or cause) (93%)
Exhibit motivation to make a difference in the world (93%)
Believe that spiritual feelings are not bound to religious settings (100%).

Experiences of school support for spirituality. In many ways, religious schools evaluated (N=37) presented positive opportunities to connect spiritually according to study results. This observation seems expected, in that spirituality is often found in religious settings. However, negative findings less expected in a religious context seem striking.

Despite an intentional "religious" education and environment in their schools, more than half of study subjects reported that sincerity in prayer was considered to be "socially awkward" and that opportunities to speak about G-d were rarely or never available. Even in the context of prayer education, 78% percent of students felt that the practice of introspection was lacking, and almost 60% felt alienated from spiritual connection entirely due to the atmosphere created during services. 85% of study subjects, manifesting creative traits including an appreciation of independence, expressed a negative valence towards religious law, believing its purpose to be behavioral control. Finally, almost 70% of subjects observed inconsistency, insincerity or dishonesty among religious teachers, and almost 1:2 students felt that religious teachers did not care about them as people. While many study subjects did find ways to connect spiritually in their

school setting, these particular observations may indicate areas warranting attention in Orthodox schooling.

Additional Questions

In addition to the inclusion of formal scales to measure defined constructs of traits "spirituality" and "creativity," as well as school support in these areas, the questionnaire included several multiple choice or open-ended questions to be used for the collection of qualitative data about the subjects in the study group.

Experience of academic success. One of the questions aimed to understand whether these artistically gifted students were gifted academically as well. A total of 61.5% of the study group responded that they typically performed above their peers academically. This percent was made up of roughly 46% for whom learning seemed easier than for others, and 15% who were potentially a full grade level ahead or more. See Figure 7.1 for visual representation.

Academically (in class), the following statement is the most true:
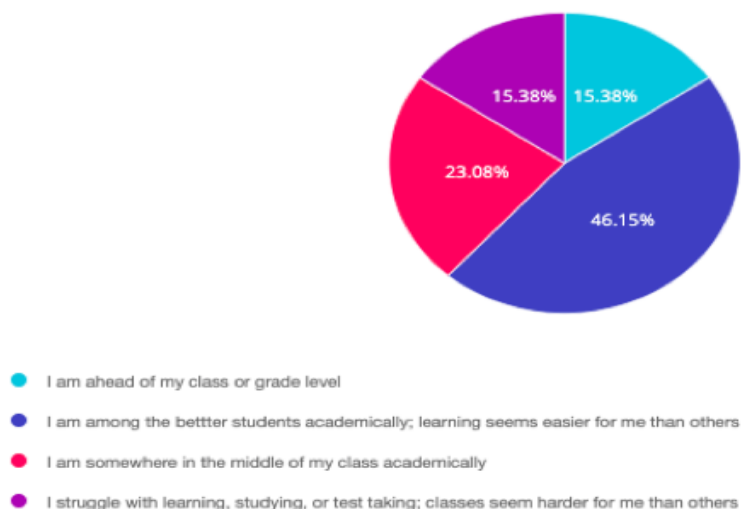Answered: 39   Skipped: 15

- I am ahead of my class or grade level
- I am among the bettter students academically; learning seems easier for me than others
- I am somewhere in the middle of my class academically
- I struggle with learning, studying, or test taking; classes seem harder for me than others

Figure 7.1. Experience of Academic Success

Perceived treatment from teachers. A second question inquired about the treatment in class to which these creative students are accustomed, whether similar to or different from peers.

It was hypothesized that depending on the perspective of a teacher, creatively gifted students would be uniquely appreciated for their abilities or be penalized for their divergent approaches. Not surprisingly, a total of approximately 77% of the study group responded that teachers seemed to treat them different than other students, whether for better or for worse.

The highest response (31%) was from students who felt their treatment fluctuated between being viewed favorably or viewed as an annoyance (Response: "A combination of 1 & 3," with response 1 "Teachers usually love and favor me" and response 3,

"Teachers sometimes seem threatened or annoyed by me"). However, several of the responses listed in the optional answer of "other" also seemed to fit the "combination" answer as well, as in one student who selected "other" and wrote, "They either love me or they hate me. No in between."

A relatively sizeable portion of students selected response 1 or 3 alone (18% and 13% respectively, totalling 31% combined), while the response that treatment of creative students was no different from other students was only 23%. Thus, more than 75% of students identified with the experience in class of being treated differently than their peers. See Figure 7.2 below for a visual representation of this data.

In class, the following statement is most true

Answered: 39   Skipped: 15
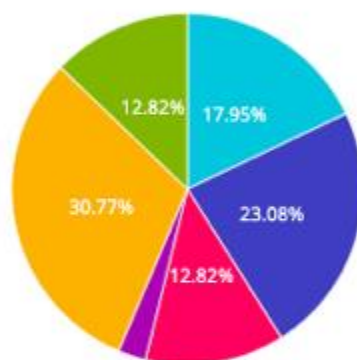
- 1) Teachers usually love and favor me
- 2) Teachers usually treat me like all other students
- 3) Teachers sometimes seem threatened or annoyed by me
- 4) Teachers are the enemy; I have been kicked out of class more than once
- 5) A Combination of 1 & 3
- Other (Please specify)

Figure 7.2. Treatment in Class

Extracurricular Abilities. A third question concerned subjects' perception of appreciation they received for abilities they had outside of a classroom environment. An astounding 71% of students responded that they "have many strengths that (I) don't feel are measured, understood or appreciated." In addition to this response rate, the answer submitted through the category of "other" seems to topically match the choice of having unappreciated strengths, as the subject writes, "I feel that ppl do know that I sing - its just that no one cares too much / there aren't any uses for it."

A full 96% of students felt they had at least some abilities outside the classroom environment that were not appreciated.

See Table 9.1 for the data regarding responses to this question.

Table 9.1. Appreciation of Extracurricular Abilities

Choices	Response percent	Response count
I have many strengths that I don't feel are measured, understood or appreciated	71.05%	27
I have some abilities outside of studying and learning	39.47%	15
I don't feel talented in most areas; I don't really know if I have any abilities	5.26%	2
Other (Please specify) Show 1 response	2.63%	1

Question "Are you an out-of-the-box thinker?" *"I see a box and I hulk smash it" – one study respondent.* In addition to multiple choice questions, some questions were open-ended, including one that directly asked students whether they would term themselves an "out of the box thinker" and how they would explain this. 24 subjects completed this question.

Explicit "Yes" responders. Out of these, 75% (18) answered clearly with the word "Yes," with or without further description. Four subjects used a positive affirmation even stronger than the word "yes," employing the terms "definitely," "very much so," or an exclamation point. In addition to the explicit use of the word "Yes," some descriptive characteristics emerge thematically from this group as well, including:

i. Accepting others without judgment

ii. Coming up with novel solutions to problems

iii. Others being impressed with their ideas

iv. Being unique/original

v. Having multiple answers/ideas/perspectives, and

vi. OK with being different/independent

See Table 9.2 for descriptions following the explicit answer of "Yes."

Table 9.2. Answers following explicit "Yes" to "Are you an Out of the Box Thinker?"

Some solutions that seem like common sense to me can blow others away. I've never struggled with being original and standing out…

I accept people for who they are. I think open mindedly

Definitely. I never take things at face value or just because others see it that way. I explore everything for myself.

Very much so. I can understand that every person has a different background and one will never know a person until they truly get to know them so don't judge. Looks don't mean anything and sometimes first impressions can be so wrong. Give it a chance

If a solution is not obvious I try to be creative about it

Very much so. I prefer when there are multiple answers to things, since this promotes creative thinking and expression.

I am definitely an out of the box thinker. I find unique ways of teaching classes, I take many ideas at a time and put them together, and I use my creativity in ways that I've never thought of. I don't realize how creative of a thinker I am until I am told. I've always felt that I have such big thoughts and that nobody can understand them. It can make me think I'm crazy, but once I apply my out of the box thoughts into something concrete, my co-worker may tell me, wow, where did you come up with that idea?

I like to see things from lots of perspectives.

I tend to be able to think very abstractly and truth oriented

I enjoy nuance

I see a box and I hulk smash it.

Non Explicit "Yes" Responses. Although not all subjects responded with a clear "yes," scoring the additional responses for commonly appearing words or themes reveals that most describe their approach to thinking as "new" or "creative," and some use a form of the phrase "different than others." There were two subjects who opted to say "I think I am" rather than "yes."

The two weakest responses to the question seemed to be those that indicated "it depends" or "sometimes." Yet, for both of these subjects, the adjoining phrases did also include the themes "creative" or different ways of thinking. One subject responded with the word "No," but proceeded to provide an answer characterized by sarcasm, "I like to look into my Amazon box." None of the twenty-four subjects responding to this question seemed to authentically submit a negative answer in any form.

Those subjects who did not answer with a clear "Yes" gave responses presented in Table 9.3.

Table 9.3. "Are you an Out of the Box Thinker" Responses without explicit "Yes"

I always seem to be doing things differently than others. I think for myself, and don't agree with someone else automatically, unless I truly believe it, and I will speak up and say something even if no one else is saying it

Sometimes I think of new ways to connect ideas together or too think of old ones.

I tend to think more creatively but sometimes I need to think inside of what is standard

I am always creating new things and new perspectives.

I like to think so

I have different views than most of my family/friends, more liberal. I consider myself creative and I like trying new things.

When I'm more creative it sort of forces me to think out of the box. Which is enjoyable for me.

No I like to look into my Amazon box.

It depends on what subject. I am a visual learner though.

I think I am. I like to come up with new and creative ways to solve problems

Views on the environment and health/medicine. Due to spirituality literature sources linking a concern for the environment with a heightened sense of spirituality, as well as the possibility that spiritual inclination might lead to alternative, eastern perspectives regarding health and medicine, questions exploring subjects' views on the

environment and western verses alternative forms of medicine were also included in the open ended questions portion of the study.

Subject views on the environment. 21 subjects chose to respond to this question. Two of these provided answers that did not seem to address the question and were eliminated from the evaluation of responses, thus data for this question applies to N=19.

In subject responses, several repeated phrases or themes emerged. The most salient of terms was "should," as most subjects declared what "should" be happening that was not currently happening. The second most prominent phrase was the value of caring / taking care of the earth. Additional themes emerging from subject views on the environment include a concern for future generations, the need to take action, and the feeling of sadness or shame.

In sum, out of 19 responses, 95% expressed concern for the environment, and 79% implied that action should be taken about it. Table 10.1 presents some specific responses to this question.

Table 10.1. Views on the Environment

We should be taking care of it

It is appalling and scary how we have failed to take care of the earth. I worry for myself and my descendants.

People should do more to help the environment

The environment should be protected, and there are some very easy things that we could do in our day-to-day life that could help tremendously.

We have to respect our surroundings because we have to think about sustainability, others and our future.

People should take better care of it.

Sustainability

Be nice to the earth

Definitely needs more attention and a bigger sense of responsibility on everyone's part in protecting the environment.

I think that we should all take care of the world we live in. I get sad when people just put trash around

We should be conscious of how we affect the planet

Our family grows vegetables and raises ducks and chickens for eggs.

I think people should walk more and drive less. Maybe also bike and bring people into a more healthy lifestyle.

It is a shame that many people don't find protecting the environment more

important.

Subject views on health and medicine. 23 subjects completed this question. One

response did not address the question and was eliminated, leaving N=22.

In sorting through responses regarding subjects' views on health and medicine, a

major theme (in more than 50% of responses) emerged as the subscription to a holistic or

alternative approach to health and medicine. These responses were described as

"holistic," in differentiation from responses not expressing this holistic or alternative

approach. Non-holistic responses were described as "neutral," with the exception of one

particularly Western view.

Holistic View. Examples of a holistic view expressed in responses include:

"My biggest gripe with the medicine companies today is how they view the body

in a separate part, the brain, the arms, the teeth, the stomach, instead of one unit"

"Conventional medicine often does more harm than good and only treats

symptoms instead of getting to the root cause"

"I feel that many illnesses can be cured naturally as opposed to using medicine

that often have negative symptoms. The system should be altered and natural remedies

should be looked into more."

"The body's health is all based on the health of the mind."

"I'm homeopathic and anti-vaccine. Instead of taking common medication I try to find an herbal or homeopathic remedy. In addition, my immune system is boosted by herbal medicines to keep me healthy and I rarely get sick"

"I'm studying medicine now and I'm going to be branching off into natural medicine. I strongly believe that we can (holistically) heal our bodies and mind."

Conventional View. Examples of conventional responses that do not express a view characterized as "holistic" or alternative include:

"Its very important to be healthy."

"We should eat healthfully and exercise."

"When we don't take care of ourselves, it's there to help us"

The one view considered explicitly "Western" states, "Only take prescribed meds."

In evaluation of the results, 50% (11 of 22 responses) expressed a holistic view, seven (31.8%) expressed a neutral conventional view, and only one expressed an identifiably "western" view.

Spiritual View. Several responses seemed to view the body from a spiritual point of view. They reflected neither clearly eastern-holistic nor western views of medicine, but articulate a view of the physical that is spiritual in nature, referencing terms such as "G-d" and "miracles" in descriptions of the body, such as:

"the miracles involved in ensuring our bodies are running every day."

"God clearly states that we are obligated to keep ourselves healthy… so we can have a healthy body and mind to serve Hashem."

And "Your body is what enables your soul to communicate."

While the first two of these also reference subscription to western medicine, the latter response may be considered "holistic," as it employs the phrase "mind and body," language typically used in reference to a holistic view of health. A visual representation of this data can be viewed in Figure 8.
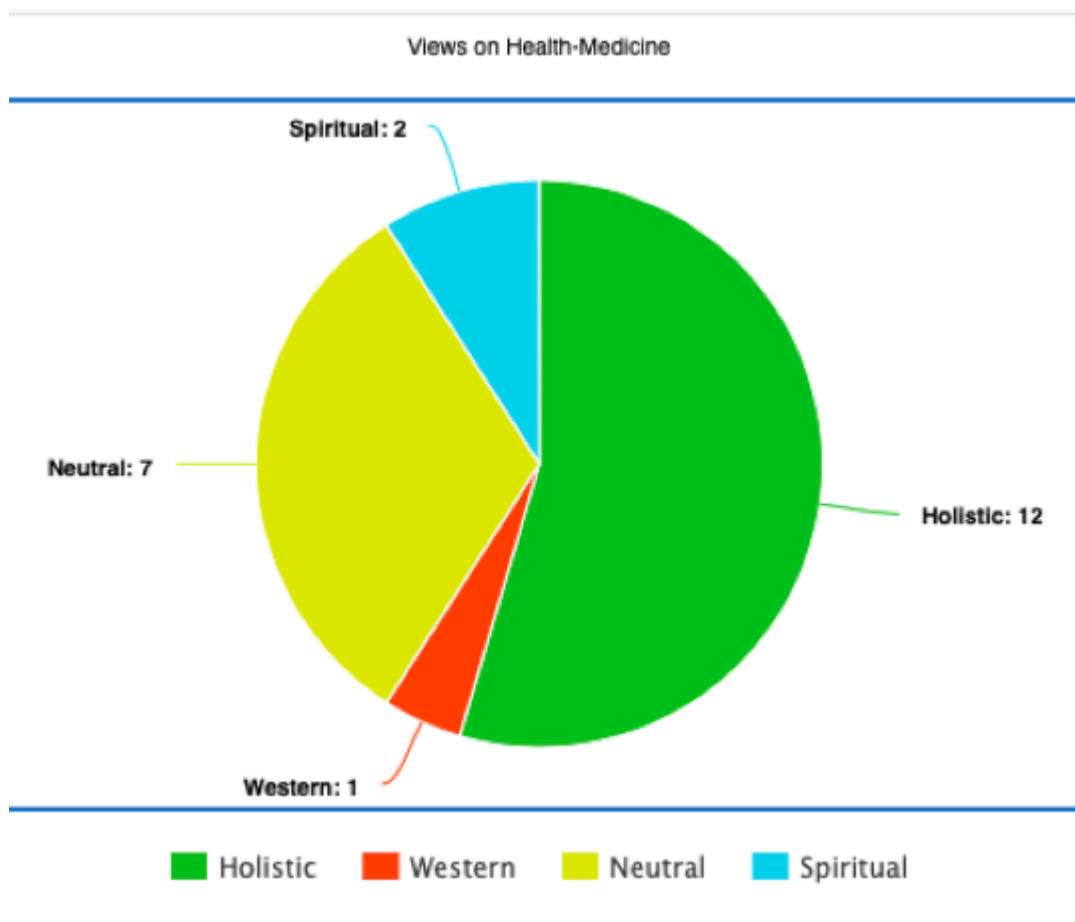

Figure 8. Visual Depiction of Views on Health & Medicine

In total, 63.6% of study subjects adopt a holistic or spiritualized view of health and medicine. Of this number, it can be said that 54.5% of subjects hold an explicitly holistic view.

Summary of subject views on health and environment. Since the views of the study group on these questions have not been measured against a non-artistic control group, this data is qualitative and exploratory only. However, the results do indicate leanings among creative and spiritually inclined individuals towards both alternative health and environmentalist beliefs, observations which may hold potential for future investigation.

A statistically significant portion not only consider the environment important, but believe in being proactive in its care. Since environmentalism is not widely embraced within right wing Orthodox communities (Gerstenfeld & Wyler, 1999), subjects' beliefs would not be based on religious education and can thus be attributed to natural disposition.

Similarly, more than half of study subjects express support for forms of healing alternative to conventional medicine. Although the global economy for the field of CAM (Complementary and Alternative Medicines) and interest in "wellness" has risen in recent years, its support remains only 16%[9] (Bristol, 2018; Thera-Smart, 2019), compared to 54% of study subjects. Similar to environmentalism, Orthodox Jewish education does

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[9] University of Bristol (2018) https://medicalxpress.com/news/2018-11-adults-complementary-alternative-medicine-england.html

not advocate for alternative forms of medicine in particular (Dreyfus, 2012), leaving subject views on this topic sourced in natural disposition as well.

Links between strengths in creative thinking, artistic talent and spirituality and views on environmentalism or medical healing have not yet been empirically explored, but may be an area worth future consideration based on preliminary findings in this study.

Summary of additional question responses. Several optional multiple choice or open-ended questions were included in the study questionnaire. Results are summarized here for qualitative purposes.

The majority of study subjects (96%) felt that they possess several abilities that are not fully appreciated, with 71% believing that they had *many* unappreciated abilities.

In class, 77% of subjects felt that teachers treated them differently than their peers, and 61% reported that they performed academically ahead of their peers.

When asked if they considered themselves an "out of the box thinker," almost 60% responded with an explicit "Yes," and for those without an explicit "Yes," further descriptions they provided included the articulation of themes such as "creative" or "different." No subject responded with an explicitly negative answer to this question.

Subjects were also queried about their views on the environment, health, and medicine. Almost all students (95%) expressed positive support for the environment, with almost 80% expressing motivation to be personally proactive in this support. More than half of subjects (54%) subscribed to an explicitly holistic, alternative approach to

medicine, compared to a 15% rate of support for the alternative medicine and wellness economy globally.

Untested constructs and unexpected findings

Interventions of positive support. This study hypothesizes that an intervention providing a positive experience of support in areas of artistic talent, creativity or spirituality may counter the negative impact of weak school support in these areas. Interventions would be in the form of an environment such as an extracurricular, summer, or year-round school focused on the arts, or an authority figure such as a parent, teacher or mentor supporting creative expression within Orthodoxy.

In the current study, analysis of specific interventions of positive support was not conducted because the selection of study participants involved a process that effectively controlled for these interventions. Study subjects were largely recruited through a year-round school for the arts, an environment highly supportive of creative expression within Orthodoxy, thus affiliation with this institution represented a positive support intervention by default. Subjects were alternatively recruited through Orthodox families already demonstrating parental support for creative expression.

Several subjects were not recruited through these channels, but regression analysis was not conducted to evaluate differences among subjects relating to this variable. In that a statistically significant portion of subjects (>.80) were recruited through channels reflecting positive support, however, it may be concluded that subjects' responses accounted for some form of positive support intervention outside of their

primary religious school. Finding a comparison group of students with low positive support of any sort to assess possible differences in hashkafic background, personal religious choices, or art mediums may be valuable for future investigation, but was not addressed in this study.

In the case of one outlier student, results do show that strong support for creativity may correlate with a reduced desire to search for purpose and meaning. This case suggests that support for creativity in particular may provide a sense of purpose and meaning in general. However, the sample size involved in this observation is too small to draw significant conclusions.

Domain distinctions. Prior to study administration, moderate regression analysis was proposed to determine if differences exist between domains of artistic expression.

Domain clusters. Some evaluation was conducted to determine if any domains held likelihood of appearing together in clusters. While these observations are exploratory only, the following clusters emerged:

i. *Director-writer without music* – those involved in directing, producing and writing but lacking affiliation with music domains

ii. *Director-writer together with music/performance* – those involved in directing, producing and writing in addition to performance skills or music domains

iii. *Performance* – those involved in music, dance and acting performance only

iv. *Scientific* – those involved only in domains requiring technical skill but work in isolation, such as baking or film editing

Additional domain observations. In this study, a majority of subjects exhibited skills in the domain of visual art, therefore all of the above categories equally assume potential ability in the domain of visual art. Last, differences between the skills of composition and performance, although distinguished in the survey scale evaluating domain interest, did not emerge as a pattern in study results, thus no conclusions can be made regarding this distinction.

Age at which problems begin. During the development of the study, a number of potential subject candidates were selected as "beta" testers to evaluate the questionnaire for its language sensitivity and length. As a result of this process, however, a surprising picture of these adolescents and their families emerged.

Rather than finding these adolescents to be the ideal subjects for the current study, a statistically significant majority (85%) of the families involved had *already withdrawn their creative children from Orthodox schooling*. 80% of these families had enrolled their children in public school, and one had opted for homeschooling. Of the families who had selected public school, *100% of these families experienced challenges of religious defection from more than one of their children*. The only family not experiencing religious defection was the one who had opted for homeschooling.

Further, and potentially even more surprising, however, was that all of the children who had been transferred from private Orthodox to public school had all made the change *before the age of thirteen*. Although this study aimed to assess the experience of *adolescents* and focused on those who did attend an Orthodox school, the observation

that creative students may experience difficulty even prior to adolescence seems relevant for future study of this topic.

This observation also highlights the need to understand differences between those who leave Orthodox schooling at an early age and those who remain within it, whether differences of personal trait or in life choices following adolescence.

Growing number of arts programs. The time span over which this study has taken place has witnessed the emergence of multiple new programs promoting the creative and performing arts for religious youth. Camps, extra-curricular training schools, talent competitions, and even schools and seminaries have opened or expanded in recent years. The development of these new programs will likely change the experience of creative Orthodox youth in the future, and as these youths mature, will also expand support for creative exploration and expression in the broader community within one generation.

Each of these additional findings seem worth exploring in future research, as will be discussed below.

Chapter 8: Discussion, Limitations, Areas for Future Research, Conclusion

Study Overview

  Research questions. During the course of this study, two primary research questions were investigated. The first is whether artistically gifted students also possess above average strength in creative thinking and spiritual disposition. The second concerned the support creatively gifted Orthodox students experience in the areas of creativity and spirituality in their religious school.

  Procedure. The study was conducted between December 2018 and March 2019 with 54 predominantly North American female young adults with a mean age of 19 primarily reflecting on their experience in a religious high school. All subjects completed two quantitative evaluations measuring creative thinking ability and spiritual orientation along with several qualitative assessments measuring spirituality and school experiences of support, as well as several supplementary questions.

  A total of 39 subjects qualified for conditions of personal trait assessment, and this study group was found to be statistically significant in both strengths of creative thinking and spiritual disposition. A total of 22 students qualified for evaluation of their school environment, and various qualitative findings related to school environment were reported. A follow up evaluation segregated students reporting experiences of particularly low school support into a new study group, and a secondary comparative study was made between students of exceptionally low perceptions of support and the group overall, and observations were reported.

Measurements. The measurement tool used for the study was one 30-minute questionnaire made up of several small scales, each assessing a different construct evaluated in the study.

Artistic talent was measured by the CAQ (Carson, 2005), a test evaluating the creative accomplishment of subjects in 12 professional categories, an author-generated scale measuring art interest from among 32 unique art mediums, and pre-study screening of qualifications for participation in the study.

Creativity was quantitatively measured by the RIBS (Runco, 2001), a test of divergent thinking supporting the foundational work of Guilford and Torrance, and to a lesser degree, qualitative observations based on responses to the Gough creative personality scale (1970) and study-generated questions.

Spirituality was quantitatively measured by responses to the Meaning in Life Questionnaire: Search Subscale, relying on spirituality research indicating a desire to seek meaning in life, as well as a "search orientation" in general as key factors in a spiritual disposition. Qualitative observations were gathered regarding additional empirically supported aspects of a spiritual disposition, such as absorption ability and connectedness to others, measured using portions of the Spiritual Orientation Inventory (Elkins, 1988) and the Mysticism Scale (Hood, 1975).

Support for creativity in school environments in this study was measured by a modified version of Runco's RESC (2016), and support for spirituality in school environments was measured by a scale formed from data of the RUACH study (2011) identifying factors that foster or hinder spirituality in an Orthodox school.

To augment data collection for qualitative research purposes, these scales were supplemented by six additional author-generated questions about subjects' general school experiences and views potentially indicating a creative or spiritual disposition.

Findings. The results of this study confirm previous research on the cognitive and emotional traits of artists. New findings from this study include the strong correlation between artists and a spiritual disposition in general or search orientation in particular, and an understanding of the experiences creatively inclined students encounter in Orthodox schooling.

Discussion - Creative students in Orthodox schooling

Aside from talent in artistic expression, creative students possess unique cognitive abilities and emotional dispositions which can present as strengths or challenges in a range of contexts.

Classroom setting

Student strengths. Based on this study, students with artistic talent also evidence above average ideation ability (skill in generating multiple, valuable, novel ideas), seek to understand the meaning behind their practices, and present a likelihood of academic giftedness.

In a classroom setting rewarding novel ideas and questions, and providing explanations of the purpose behind actions and laws, or a class offering support for gifted students, creative students will likely be able to thrive.

Potential Problems. While supporting creative students in specific ways can help them succeed, neglecting their unique needs can pose challenges to their well-being. Apart from obstacles they face that are common during adolescence or in finding religiously appropriate outlets for artistic expression, in the classroom setting they may also be challenged. In this setting they may experience negative emotions or cognitive dissonance, or academically need more than they are offered.

Negative emotions. Students exhibiting a disposition towards the search for meaning may also be prone to negative emotions such as sadness, fear and depression (Steger et el, 2006). While tendency toward negative emotions may be a natural trait, a creative student may also encounter actual negative experiences that lead to unwanted feelings.

Young students may initially assume that teachers would value their ideas, questions and curiosity to learn, but experience frustration or disappointment if a teacher rejects their uncommon ideas, questions, or curiosity to know more. Of the 37 Orthodox schools assessed, the majority seemed to evidence weakness in the areas of welcoming questions and new ideas, as well as focusing on the meaning behind practices (rather than on behavioral expectations alone). The majority of study subjects also reported that teachers treat them differently than peers, and that they possess several or "many" unappreciated abilities. These circumstances may serve to activate or strengthen negative feelings.

Cognitive Dissonance. If new ideas, questions, or the search for meaning are unwelcome, these gifted students may also experience cognitive dissonance if they

believe school to be a place of finding answers to questions. While they may not be able to identify or articulate their confusion, they may begin to resent or lose respect for the education school does provide.

The disposition to search for meaning is also negatively related to close-mindedness (dogmatism) (Steger et al, 2006). Thus, the perception of dogmatism in even one teacher's approach may also create particular frustration or cognitive dissonance for these students.

Academic success. In a majority of cases, these students have potential to excel academically or have special academic needs of some sort differentiating them from peers. If these needs are unmet, these students may not be able to actualize their academic potential and thrive.

Based on study results, the most highly creative students perceived school support to be the least adequate, reporting that "highly creative" students would *not do well* in their schools.

Although current support for academics may be adequate for the majority of students, for this gifted population, academic support may benefit from modifications.

Creative students socially. According to results on the Gough Personality Scale (1970), the overwhelming majority of study subjects identified as not conventional (89%) and not commonplace (96%). While this data may provoke the description, "out of the box," it also indicates that creative students can differ from their peers in a wide range of unknown and nuanced ways if they are neither conventional nor commonplace.

Differing from peers may benefit or hurt students socially. Supporting this finding, study results showed that study subjects also tended towards the extreme ends of socialization, with the majority of subjects reporting their social status as either the most or least popular in their class.

While being a popular leader may be a positive experience for an unconventional student, the feeling of having no friends at all can be painful. Although teachers and administrators are not fully responsible for students' socialization, awareness of these experiences may be helpful to students in need, and if severe, socialization problems can impact overall behavior and well-being, if not academic achievement.

Creative students during *davening* (prayer)

Spiritual Strengths. Based on study results, creative students demonstrate a clear disposition towards spirituality. As a population overall, these students are highly disposed to search for meaning, motivating them to understand the meaning behind their prayers, which in turn may aid them in cultivating *kavannah* (intentionality), a dimension of prayer commonly known to be difficult for many people.

Study results also indicate that creative students are more disposed to experiencing natural feelings of awe and gratitude, reflection, and the ability to become completely absorbed when involved in an activity. These feelings and abilities may enable creative students to experience connection in prayer more easily than others.

Due to their strengths in areas of spirituality, creative students may thrive in a religious school in the context of prayer. Not only can these students thrive personally,

but their ability to connect in prayer as well as reflect on their experiences position them to discover insights that can be helpful in inspiring others as well.

Potential Problems. Despite the spiritual strengths these students manifest, study results also indicate a strikingly unfortunate failure of Orthodox religious schools to meet the spiritual needs of these students. More than half of study subjects report a negative valence for support in a range of spiritual areas. While this means that almost half of subjects do report adequate support for spirituality, one in every two students seems to be a relatively high rate of failure to satisfy spiritual needs in a religious setting.

Some primary areas of weakness are social concerns, alienation during prayer services, and lack of opportunity to cultivate intrinsic connection.

Social concerns. More than half of subjects report that serious focus on prayer is considered to be "socially awkward" in their school. These students are disposed to deep connection and sincere understanding of the words of prayer, and are able to lose awareness of their surroundings when involved in prayer, yet more than half of them feel that expressing themselves authentically in these ways may cause them distress socially.

Alienation during prayer services. During prayer services, subjects reported behavior by teachers attempting to maintain decorum such as tapping and shushing that alienated students from authentic prayer in 60% of cases. Subjects reported that prayer services and education seemed almost 70% focused on extrinsic behavioral practices rather than the cultivation of an internal, personal connection, and the vast majority of subjects (80%) reported that opportunities to specifically cultivate a personal relationship with G-d were rare or absent entirely.

While a behavioral approach may work for the general population of students, prayer education for creative students may be an area for improvement. Students most disposed to spirituality may tragically also be most alienated during prayer.

Lack of opportunity to cultivate connection. In a school focused on traditional religion, practices explicitly associated with "spirituality" may not be expected in the same way as would be discussions of religious subjects and instruction in the words and rituals of the prayer service. Nevertheless, they would potentially suit a religious curriculum if offered. It is therefore disappointing to see the practice of introspection classically associated with spirituality absent from the majority of Orthodox schools. Subjects reported in 78% of cases that time in school was rarely or never designated for personal introspection. For students with particular ability in introspection, not having the time to engage in this practice supporting personal connection in prayer can limit their potential to connect in ways that would satisfy them.

Creative students and religious belief

Strength in religiosity. The disposition to search for meaning has also been positively related to both religious quest and rumination (Steger et al 2006), inclining this spiritually gifted population of students specifically towards greater commitment to religion, self-reflection, and the contemplation of values, actions and ideas. Strengths in reflection and contemplation may in turn also aid the cultivation of a deeper, more meaningful, internal connection to religious beliefs. Thus, creative students have the potential to be among the most dedicated to religiosity and the most deeply connected spiritually.

Potential problems with religion. Alternative to manifesting passion in religious belief and spiritual connection, if creative students do not have a safe space in which to discuss their beliefs or foster their inner experience, inclinations towards greater commitment or connection may not be realized.

Problems caused by alienation in "tefilla." Prayer may be an area of religiosity most representing belief in G-d, in that it presupposes the cultivation of a direct personal relationship with G-d. Alienating experiences in prayer, therefore, may be more significant than alienating experiences in a secular subject, as it may translate for adolescents into alienation from G-d or religion altogether.

Problems caused by absence of discussions of faith. Study results show that in at least 18 schools assessed, opportunities to speak with an adult about G-d to be rarely or never available, and that questions in belief in G-d or faith were "problematic." In a relatively high proportion of schools (42%), such questions were explicitly resisted, criticized, or penalized.

For students with natural interest in learning, exploration and investigation of their world, questions of faith may arise from authentic interest in the answers. If rejected for their questions, these students may no longer be driven to ask (Beghetto, 2013, 2014), and their interest in religion may wane entirely (*ibid*).

Problems caused by trait-based aversion to authority. A statistically significant volume of subjects (85%) believed that religious laws were primarily designed to control their behavior. As creative individuals typically resist the control of others (Barron, 1955; Batey & Furnham 2006; Feist, 1998; Mackinnon, 1965), this juxtaposition of a

natural inclination towards independent thinking with the perception of a controlling

system could lead to a strengthened negative perception of religious law.

Problems caused by teachers' personality. The pervasive trend towards

personalization in marketing attests to the impact of a personal connection on the

motivation to act. While teachers are presumably not obligated to cultivate personal

relationships with students, these relationships may nevertheless aid student motivation,

while the absence of personal relationships may hinder it.

In almost half of schools assessed, subjects rarely or never had a close relationship

with teachers in their Jewish Studies courses and even felt that their Jewish Studies

teachers rarely or never cared specifically about them, their lives, or their personal well-

being. For many students, the absence of relationships with teachers may be welcome or

have no impact at all. However, for students disposed to spirituality manifest as

connectedness to others (Ley and Corless, 1988; Reed, 1992), the absence of these

relationships may be an alienating experience impacting their motivation to connect

religiously overall.

Further, included in the spiritual disposition is an above average inclination

towards humility, sincerity and toleration of others (Hyman & Handal, 2006;

Lichtenstein, 2005; Meezenbroek et al, 2012; Reed, 1991; Roehlkepartain et al., 2005).

While religious teachers modeling proper character is essential to religious education for

all students, above average sensitivity to these traits may cause even greater dissonance

for spiritually inclined students if not properly modeled. Distressing study results

indicate that almost 70% have met religious teachers who did not seem to be honest,

consistent or sincere, and *almost half* of students found teachers to *rarely or never* model humility, non-judgment and imperfection. Again, while this finding reveals an area for improvement beneficial to all students, such inconsistencies in student-teacher relationships may cause such a degree of emotional distress for spiritually inclined students that overall faith in religious authority may be impacted.

General points of consideration

Concern for defection or depression. It is unclear how many of these students feel frustrated, criticized, penalized, controlled or disappointed enough to blame or leave religion entirely. While defection is not exclusive to creative adolescents, the experience of negative feelings or lack of support for basic needs associated with religious beliefs may impact their choices at any point in life.

Some students may choose to maintain a commitment to Orthodoxy regardless of negative experiences, but with minimal support for questions free from risk of penalty, they may live uncomfortably with unanswered questions or disappointment. Thus, although remaining outwardly observant, they may harbor unexpressed negative feelings that can lead to emotional or physical ailment.

While depression may stem from a range of reasons, educators can at minimum have awareness of factors that may contribute to negative feelings, aim to prevent them if possible, and be careful not to cause them.

"Exploratory" data. While subjects did report some positive experiences, the proportion of alienating practices are striking for this high volume and representative range of Orthodox high schools. This portion of the study, however, may be viewed as

exploratory only. The data revealed may simply be helpful in indicating areas of support in Orthodox schooling that can benefit from modification or more formal investigation in the future.

Recommendations for action

Awareness of the above may help schools in addressing the needs of creative and spiritually gifted students. An important understanding resulting from such data is that the creative and spiritual traits of these students are natural to them. While desires for independence, non-conformity and curiosity may seem contradictory to traditional religious behavior, creative students do not intend deviance. Such traits, among others, are manifestations of dispositions towards creativity or spirituality and can be expected of students with creative or spiritual gifts. They can even benefit others if cultivated and channeled properly. Following are suggestions for recognizing creative and spiritual traits in positive ways.

Within existing / mainstream programs

Projects to help the class or school. Creative or spiritual students can be asked to use their gifts to contribute to a project relating to character development, religious belief, or religious practice expressed in a creative way. Examples are to artistically create a bulletin board relating to character traits or upcoming holidays, or to write a song or create a video for a school assembly. These projects can channel and reward creative or spiritual inclinations in these students, increasing their positive school experiences relating to religion, or overall well-being.

Lessons. Assignments in class may be modified slightly to accommodate students' creative strengths. Examples of class modifications for creative students include enabling the expression of opinion in an assignment, welcoming feedback about assignments, granting choice in assignments, or giving praise for the creative thought behind an idea, even if the idea is not based on traditional sources.

Teachers' availability or outreach. The results of this study indicate that students manifesting abilities in art domains may also have additional needs of emotional connection during prayer or sincere questions of faith in their ongoing search for meaning. They will have greater sensitivity to humanity and the environment, reacting more strongly to disparaging remarks or actions. They may be more disposed toward emotional connection to others and to teachers, and more greatly impacted from their absence. The more teachers and administrators can be aware of these additional, but not always visible traits, the more these students' primary needs can be satisfied.

Focus on the meaning. Creative and spiritual students seek to understand and find meaning in their actions and knowledge. They want a personal relationship with G-d, a relationship built on positive emotions. These students are inclined to pursue justice, and will choose to follow rules because they are just and part of a positive relationship with G-d. Tragically, if these students are pushed and penalized for their natural inclinations towards spirituality or offered a religion devoid of opportunities to connect emotionally, intellectually and spiritually, their non-conformist nature may incline them to repulsion from rules and authority completely. Helping these students thrive may require a different approach than that used for students for whom hierarchical authority and rules work adequately. Creative and spiritual students will be attracted by meaning

and inspiration, and turned off by rules and practices lacking a clear meaning. Thus, finding ways to provide meaning and inspiration for these students, even in the basic explanation of rules and practices, can not only help them thrive in general, but also arouse their intrinsic motivation to follow practices for deeper, spiritual reasons.

The creation of special programs

Gifted programming. Schools or school networks may consider the creation of a "gifted" program for creative and spiritual students, potentially fostering their abilities in artistic domains (writing, music, visual, theater, film) or the sciences and technology to channel their desires for exploration and discovery. These students will thrive in subjects for which innovation, problem solving, and "out of the box" thinking would be important for success.

Special needs. Although increases in spiritual support can be helpful to all students, for creative and spiritual students in particular these areas of support may be essential to their well-being. Students predisposed to emotional connection and absorption during prayer must be given these opportunities, even if offered in alternative prayer services designed and provided only for a small population of students. These students may also need outlets for expression or support for creative thinking more than their peers. Creating a special program to provide greater opportunity for creative expression or validation for creative thinking may be necessary to help these students succeed.

Use of the arts in prayer. As evidenced in a small body of empirical literature as well as in results from this study, a high positive correlation exists between artistic talent

and a spiritual disposition. It may be that artistic expression itself, such as music, movement, visual art or writing, can, in fact, foster spirituality. One method of providing spiritual support for students, and most especially for students exhibiting artistic ability, may be through artistic domains. This might include a reliance on music in prayer, religious practice enabling visual expression for ideas, or the use of writing to cultivate interconnectedness, a private, internal sense of self, or trans-connectedness if focused on a connection to G-d.   Such opportunities or programs may be designed for a small population of students for whom it would be relevant, meaningful, and helpful, and not for mainstream classes.

Additional observations

Hashkafic observations. For the most part, study data indicates that the religious group of Chabad, aside from ultra-Orthodox, may be the most in need of improvement in the areas of support for both creativity and spirituality. While this conclusion was based on percent of population, the largest portion of subjects were also affiliated with Chabad. Further, the small sample size in the current study leaves this observation reliant on patterns only, with confirmation requiring more attention.

Impact on arts programs. Study data indicates that programs attracting students disposed to artistic ability, such as extracurricular programs, camps, and seminaries, should be wary of additional cognitive and emotional traits of their students. In addition to artistic ability, these students will also be more likely disposed towards traits of creativity and spirituality. They will seek meaning, emotional connection, and independence. The majority will be neither commonplace nor conventional, nor prone to

conformity. They will thrive when given opportunities to connect spiritually and when rewarded for new ideas, but feel alienated or repelled if authorities set rules without explanation of meaning or penalize questions or original ideation. Thus, in addition to arts technical training, such programs would benefit from awareness of less obvious creative and spiritual traits as well.

Study Limitations

Unavoidable limitations. Due to the nature of the study, some aspects that were unavoidable may nevertheless be considered study limitations.

Sample size. Despite the many observations that may be made from the current study data, only 54 students participated in the study, and even less completed full questionnaires or qualified for participation in all portions of the study. Results are thus limited by the small sample size in the assessment of traits and experiences.

Religious homogeneity. All study participants affiliate with the religious belief system of Jewish Orthodoxy. While this study may hold potential as a model for other religions, these other groups have not been tested.

Age. During the course of study administration, it became clear that youth in the prime of adolescence (ages 14-15) were the most difficult group to interview and from whom to obtain accurate responses. In some cases, young adolescents predisposed to creative traits manifested resistance to authority, even in the case of a neutral study

administrator, posing abundant questions and critique of the questionnaire, viewing it as an unwanted assignment.

In other cases, young adolescents did not have a mature perspective regarding their own ability, reporting their achievement levels inaccurately (For example, one 14-year-old subject indicated that he was "world famous" in his level of artistic achievement, which is inaccurate according to evaluator assessment). Younger subjects in general tended towards responses that deviated from overall response patterns. Therefore, some younger subjects were eliminated as outliers entirely, or attributed a handicap of "immature view" to rectify an unusual response.

It was determined that older adolescents and young adults, ages 18-24, who benefited from maturity of perspective while retaining age proximity to their adolescent experiences were able to most thoughtfully and articulately complete the study. Thus, while these subjects did not fall into the primary age bracket of "adolescence," they were nevertheless more useful to the study, and relied on "reflection" as their access to adolescent experiences.

Additional differentiating factors. Apart from traits relating to creativity and spirituality, subjects may have represented a wide range of differences in home environmental support, access to resources and arts training, and traits unrelated to study constructs such as alacrity, willpower and intelligence. This study did not control for general personality traits, socioeconomic status, and environmental support for secular education, along with other factors that may have contributed to differences among subject scores.

Not explicitly controlling for religiosity when measuring spirituality. While much of the qualitative data is not impacted by this flaw, a setback in the quantitative correlation between artistic ability as measured by the CAQ (Carson et al, 2005) and a second self-report and spirituality as measured by the MLQ-S (Steger, 2006) is the lack explicit control of subjects' religiosity. Control group data used in the study was extracted from published works on the development of each scale, both of which used subjects unaffiliated with any particular religious group, naturally controlling for religious affiliation in their own studies. In the current study, however, although the subject group consisted of subjects qualifying as a group of artists in comparison to the control groups of "non-artists," all of the study subjects were also affiliated as religiously observant Jews.

The current study compensated for this setback in its control of spiritual factors that would in any way signify religiosity. Any factor of spirituality that could have been attributed to learned or mandated religious beliefs was eliminated from evaluation of subjects' spirituality. Second, during the course of the study itself, despite their affiliation with organized religion, subjects responded with statistical significance to the attribution of spirituality to experiences outside of organized religion. Thus, the spirituality of subjects was evaluated as well as confirmed as a construct unrelated to religiosity.

Nevertheless, in attempting to make a correlation between the spirituality of artists and non-artists, both the study and control groups should identify similarly with religiosity to rule out the possibility of religious beliefs impacting a subjects' spiritual disposition.

Measurement of constructs. In both creativity and spirituality literature, lack of field consensus persists regarding basic definitions as well as best practices in measurement, limiting the options for widely accepted and user-friendly scales for either construct. Second, in that measurement of K-12 environmental support for both creativity and spirituality has not been previously conducted, any valid and reliable scales measuring these constructs are also lacking.

Complications in measuring "Creativity"

Lack of consensus on how to measure creativity. Two primary schools of thought exist regarding the definition and proper measurement of creativity. The first follows the field's early scholarship of J.P. Guilford, is most adequately measured by the Torrance Tests of Creative Thinking, and is further explored by the more recent work of Mark Runco. This school of thought considers creativity as a normally distributed trait of an individual, a cognitive function of a person that can be identified and measured by tests of cognition. The second emerged in the 1980's and has been predominantly developed and promoted by Teresa Amabile, Mihaly Csikszentmihalyi and Robert Sternberg, occasionally referred to as the "Systems" theory of creativity. This school of thought views creativity as characteristic of a product, measurable only at the completion of a product that can be sufficiently evaluated by others. This study believes strongly in the first position, that creativity is a measurable and normally distributed trait in an individual. The products creative individuals can produce as a result of their creativity depend on additional factors including access to resources, training, and environmental support, and in the case of Orthodox adolescents, these particular factors would directly

impact the measurement of creativity if the second school of thought were to be followed exclusively.

Administrative inconvenience of the strongest measurement. The Torrance Tests of Creative Thinking (TTCT) is currently the most valid and reliable instrument to use in determining subjects' "creativity." However, this particular scale is challenged by its process of administration in its length, high expense, and difficulty in scoring. Rather than the TTCT, The RIBS developed by Mark Runco and colleagues (2001) was the scale used to measure creative thinking. It was the only choice to use for this study, as development of his instrument stands on the theories of Guilford and Torrance, yet unlike the TTCT takes the form of a relatively short self-assessment that is easy to administer.

In addition to measuring the construct of creative thinking based on the work of Guilford and Torrance, however, Runco's scale also includes elements of social evaluation representing the Systems view of creativity. Thus, his one short, administratively simple instrument which also satisfies both primary theories defining and measuring creativity was selected as the best fit for the current study. However, although initial studies evidenced the RIBS to be both valid and reliable, over time the scale has received some criticism. It is not as reliable an instrument in measuring creative cognition as the TTCT, chosen over the TTCT because of its convenience in administration, but in that it may have weaknesses, the study would suffer from these weaknesses as well.

Competing uses of the CAQ (2005). To compensate for weaknesses in the RIBS, scores from Carson's Creative Achievement Questionnaire (2005) already included in the

study can be used to increase internal consistency in the measurement of subjects' creativity in that it measures creativity according to the Systems theory of Amabile, Csikszentmihalyi and Sternberg. Although their "product" perspective is not held theoretically, measuring creativity according to their position strengthens the reliability of subjects' "trait creativity."

However, in that the CAQ measures creative achievement and not personal disposition, Carson's scale was used in this study primarily to indicate artistic talent rather than trait creativity, as trait creativity in this study was defined as creative thinking ability. For Systems theorists, subjects' scores on this one scale indicate both the independent variable of artistic talent, as well as the dependent variable of "trait creativity," thus comparing scores of creative achievement and trait creativity would be impossible, as this theory equates the two constructs. For Systems theorists, therefore, the 32-item art domain measurement would serve to identify subjects' artistic talent, but in that it is not a validated instrument, it would render scores from this scale qualitative in nature.

General contradiction to Systems theory of creativity. In general, this study produces evidence which weakens the Systems theory, showing that individuals in religious enclaves with neither access to training nor exposure to professional standards of artistry nevertheless score high in creativity as a natural, inborn trait. These findings suggest that creativity can be authentically measured as "creative potential," which may complicate the discussion of best practices for creativity measurement with regard to Systems theorists' beliefs.

Triangulation to compensate for lack of field consensus. Much literature also defines and measures creativity as a facet of personality rather than of either cognition or product quality. To create a more reliable evaluation of "trait creativity," the study employed yet a third form of measurement to increase internal consistency in its measurement of subjects' creativity. The study questionnaire therefore included a measurement of creative personality (Gough, 1970) in addition to measures of cognitive ability and creative achievement.

While this study compensated for field disagreement on basic definition and measurement of the construct of creativity through the use of three different scales, it was burdened by this need to compensate. Although triangulation solved the problem of reliability in measurement, it also created new challenges. Using multiple scales as well as supplementary questions, the battery of assessments was relatively long, needed multiple scoring rubrics, and did not have validation as an assessment tool altogether.

Summary of complications measuring creativity. The ideal scale to measure a construct would be easy to administer, effective in reliably measuring the construct, and unanimously supported as a valid measurement of the construct. In a field lacking consensus, any scale used cannot claim full validity in measuring the construct discussed, in that proponents of alternative views can challenge any scale's ability to validly measure the construct.

In the field of creativity, while the TTCT is the most widely accepted of scales measuring creativity, it is also the most difficult to administer, and would have made the study itself too difficult to conduct. While the Gough scale is both easy to administer and

widely accepted in the field, giving it credibility as a valid scale to use, it was ineffective in measuring creativity in the case of a religious study group. Thus, the study suffered from limitations in its choice of valid, reliable, and administratively feasible scales available for use.

Triangulation in assessment was used to compensate for limitations in each scale used, as well as supplementing the few validated scales with additional questions or scales without validation. However, due to the use of multiple scales, only some of which were validated, the study required segregation in analysis and reporting of results per scale, which may have burdened the study with overcomplication.

Measuring the construct of spirituality

Defining and isolating the construct. The definition of spirituality operationalized for this study emerged from the need to clearly segregate the constructs of spirituality and religiosity, to identify spirituality as a construct independent of religious practice. In empirical literature, support for the independent construct of spirituality as well as its definition seemed clear. Measurement of this construct, however, often remained interwoven with measurement of religiosity, leaving many validated measurement instruments unusable.

Obstacle of Jewish definition. Some instruments did measure "spirituality" as an independent construct, but in that the language they used to identify the construct carried negative associations for Orthodox Jewry, many of these scales were also unsuitable for a religious Jewish subject group. The term "spirituality" itself holds negative valence in Jewish Orthodoxy, thus although the construct does exist in the Jewish religion under

alternative titles (such as "Kavanna"), care was necessary in avoiding the term "spiritual" while measuring the construct. After much evaluation, the study selected instruments that would aptly measure the independent and empirically supported construct of spirituality without the negative valence attributed by Jewish Orthodoxy.

Use of unusual or unreliable scales. While several instruments qualified for use, they did not come without challenge. The most valid and reliable instrument, while it aptly measured an empirically supported definition of spirituality, has not been typically used to measure the construct of spirituality itself. Rather, it is normally employed in the measurement of "search for meaning in life." In that "search for meaning in life" is a strongly supported factor in the construct of spirituality, and no other valid and reliable scale measuring spirituality qualified for use in this study, indication of "search for meaning in life" was accepted as the presence of spirituality as well. Thus, although the instrument was sufficiently valid and reliable to measure a factor of spirituality, it was not validated explicitly for measurement of spirituality as assessed in prior literature.

The additional scales used also measured spirituality in a way that avoided negative associations from Jewish Orthodoxy. These scales were typically used to measure spirituality, but were challenged by minimal validation and reliability testing with sample groups, thus could not be used for inferential data.

Additional complications

Validation of overall assessment tool. Due to the use of triangulation, although some scales included in the battery were validated, the overall assessment tool was a collection of measurements with a range of validation and reliability. To address this

problem, study results were analyzed for each scale independently. Some scales were

evaluated for quantitative, inferential data, while others only qualitative, even if

measuring the same construct. However, if evaluating the study questionnaire as one

overall assessment tool, it cannot be considered a validated one, which may impact the

credibility of test results.

Varying subject counts. Subject qualifications included both personal credentials

as well as school affiliation. In some cases, subjects filled one but not both requirements.

In that test results were evaluated per scale, results could be limited to responses only

from subjects meeting qualifications for the construct being measured. As a result of this

process, however, almost every scale reports a different number of subjects tested, and as

such, there is no one subject count for the entire study.

Over-complexity. In that this study used a battery of measurements with varying

levels of validity and reliability, it does not use one overall validated assessment tool. In

that the study evaluated a range of variables and not all 54 subjects tested qualified for

measurement of each variable, the study overall cannot state one number of subjects

included. Thus, this study may be effectively a collection of small studies rather than one

study altogether, even if each scale evaluation relied on the same pool of students. This

added complexity to the study overall that might compromise clear understanding of its

goals or results.

Missing questions

"Chazzanut." In its aim to assess multiple constructs, the study questionnaire

combined several scales of measurement. One of these scales designed to measure art

domain interest was a study-generated list of 32 artistic domains. This scale aimed to be comprehensive, including a wide range of niche formats of artistic expression. "Chazzanut," however, a domain that had not been listed, appeared twice in the freehand field option of "other." This unlisted domain is a form of musical performance particularly relevant to Jewish subjects. While it may be similar enough to the line item already listed as "opera," as it primarily involves operatic vocal performance, in assessing the interest of religious Jews who may have minimal exposure to secular genres of music and particular experience with liturgical material, it was mistakenly overlooked as an area of interest and experience for the subject group.

"Most of the time" as an option on the school support surveys. The scales measuring school support for creativity and spirituality asked subjects to choose whether they agreed with a statement or experienced support in a particular area according to choices of "always," "sometimes," "rarely" or "never." The option to choose "most of the time" was not provided as an option, and may have been a more adequate selection for some of the questions. Not having this option may have forced subjects to choose an answer that was not the most precise in describing their experience, thus the data is limited in not being able to assess experiences or statements that may have occurred "most of the time."

Additional Questions. In aiming to evaluate subjects' experiences in school or thoughts on creativity and related topics through "additional questions," any number of questions may have been asked that were not. Factors contributing to the short list of additional questions include keeping the questionnaire to a length that could reasonably be completed within 30 minutes, and the study author's lack of foresight in composing

additional useful questions. Thus, the survey was limited in its concern for time and author's lack of foresight in leaving out questions which may have been helpful in data collection regarding any of the constructs measured.

Areas for Future Research

Several topics of study within the fields of creativity and spirituality have been investigated in this study, all of which would benefit from future research.

Creativity research

Correlation between "creativity" and "spirituality" in general. In general, this study evidences multiple areas of overlap between the traits of creativity and spirituality. While this has been indirectly suggested in previous research, this study is the first to directly address the correlation. Results of this study indicate that the emergence of a new topic of study, the overlap of traits spirituality and creativity, holds potential in the future. This study has been small in scope, with a large portion of results based on qualitative observations.   Nevertheless, results do indicate a strong correlation between the traits, and further study should most certainly be pursued.

Artists and search for meaning. With statistics indicating a nearly perfect correlation between creative talent and a disposition to search for meaning in life, this observation can be used to support creative students emotionally and psychologically at the elementary or primary school levels, as well as any programs designed for artists. Expecting this disposition can prepare administrators and social workers to help students manage their feelings, thoughts, or behavior. Further, knowing that artists are highly

likely to exhibit the need to understand the meaning behind their actions, instructors might consider including a spiritual component in projects to compel engagement with the work, or at minimum, explanation of the purpose and meaning behind assignments.

Domain differences. This study found very few differences between specific art domains regarding scores in creative thinking, scores in spirituality, and school experiences. However, due to the small sample size as well as reliance on qualitative scales for measurement, it may be that a larger study and use of inferential data would reveal patterns in cognitive or emotional abilities between or among various domains of artistic expression.

The impact of support for creativity on general well-being. Several observations from the current study data reveal that environmental support or lack of support for creativity can impact overall well-being. If creative outlets or support for creative thinking do impact the well-being of adolescents, this subject is an area of great import. However, due to the small sample size and other study limitations, more research in this area is needed.

Empirical support for creativity as an inborn trait. This study supports the theory of Guilford, Torrance and Runco that creativity is a normally distributed cognitive trait that can be identified and measured, and to a lesser degree, that creative personality has identifiable and measurable traits.

Study results partially counter-indicate support for the Systems theory. Subjects experienced poor environmental support for creativity and minimal exposure to training and opportunities for expression. Without this support or exposure, they had neither

external motivators to pursue artistic endeavors, nor a gauge by which to measure the quality of their own work against that of professionals. Despite their lack of training and minimal environmental support, however, subjects exhibited notable levels of artistic achievement, indicating inherent motivation, and statistically significant creative thinking ability, revealing this trait to be inborn.

Further, without equal access to training, students would experience unfair advantage if measuring their creative achievements against trained and experienced professionals who have benefited from access to resources and greater levels of support throughout their lives. However, in this way, Systems theory supports the current research in its position that environmental support impacts creative achievement.

Correlation between arts, environmental concern, and holistic health. Study results indicate a positive correlation between creative and spiritual students and an appreciation of the environment as well as interest in holistic, alternative forms of healthcare. Analysis was not conducted to determine whether this correlation fluctuates depending on strength in areas of spirituality, creative thinking, creative personality, or artistic domain, thus the correlation applies to the average study subject, a religious female young adult gifted in artistic expression. Further, the correlation between holistic views and creative/spiritual individuals is based on qualitative data only. Nevertheless, a link between environmental concern as well as holistic views on health and artistic, creative and spiritual individuals does emerge from study data and may be a subject worth further investigation.

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Validation of the RESC in a primary school setting. The RESC, an instrument developed by Mark Runco to evaluate support for creativity in an academic environment initially applied to a university department and not to a primary school classroom. In considering a future of environmental assessment of creativity, further validation and reliability testing of this instrument, most especially in primary grade levels, would be helpful in the field of creativity research.

Spirituality research

Correlation of spirituality to creativity. As evidenced by study results, a portion of traits attributed to both the creative person and the spiritual disposition are found to overlap, opening a fascinating new area of research. While this finding can be explored in the field of creativity research, it is also relevant in the field of spirituality research, and studies might be conducted towards the understanding of spirituality or spiritual disposition that include awareness of its correlation to creativity.

In particular, with the clarity that artists may manifest a spiritual disposition, evidence supports the inclusion of a spiritual component in programs fostering artistic expression, or the use of creative expression in programs fostering spirituality.

Factor differentiation. It may be that differences exist between factors of spirituality such as interconnectedness, intraconnectedness and transconnectedness, with each manifest as a unique strength. This study did not differentiate between these factors within the overall construct of spirituality, but in evaluating spiritual strengths, such division might be meaningful and could be an area for future investigation.

Similarly, the distinction between dispositions to search for spirituality and the experience of spirituality that has been discussed in previous research would also be an area worth assessing among creative individuals.

Confounding construct of "Belief." Emerging from this research is the identification of "belief" in empirical literature as a factor indicating both constructs of religiosity and spirituality. As such, when measuring religiosity and spirituality together as one unit, subsuming "belief" within this joint construct can be justified. However, when aiming to distinguish clearly between the constructs of religiosity as the external practice of religion and spirituality as a personally felt, internal experience, the construct of belief must be evaluated with attention to the distinction between beliefs learned or adopted by virtue of community membership, and beliefs held inherently and despite external influence.

Spirituality in the schools. This study indicated the difficulty even religious schools may have in adequately supporting spirituality in a school setting. Notwithstanding the difficulty, however, understanding of the impact of school support for spirituality on students' well-being, best practices for teaching spirituality as well as the development of instruments to evaluate school support in the area of spirituality may be two important areas for future research.

Jewish education research. In addition to topics relating to general creativity or spirituality emerging from this study, new avenues for research in the area of Jewish education may be opened as well.

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RUACH Measurement of environmental support for spirituality. The pioneering research of the RUACH project has laid groundwork for understanding environmental factors that serve to connect students or alienate them spiritually. Using RUACH data as the basis of development for an instrument to assess environmental support for spirituality would be the next step in helping schools to understand the support they currently provide, and areas of weakness in which they may wish to improve. For the purpose of this study, a scale based on RUACH research was created to measure environmental support for spirituality in Orthodox schools, but this scale has not been tested for validation and reliability. Such a scale, if validated for use in further studies, may help Orthodox schools create environments that most connect students to spirituality and avoid practices that alienate them.

Thus, this study recommends the validation of the Alienators and Connectors Environmental Measurement Scale, a scale to measure environmental support for spirituality in Jewish schools based on the research of RUACH (Pelcovitz, Goldberg & Rosenberg, 2011).

Age at which challenges begin and end. Based on findings that emerged while conducting the current research, creative and spiritual students may begin to experience challenges to their well-being even prior to adolescence. This study did not assess the experiences of students younger than adolescence, but recommends that further study be conducted to determine the feelings and well-being of creative students at the elementary age level in addition to adolescence and young adulthood.

Further, during the course of this research, a large number of adults inquired about the opportunity to participate in research relating to creative thinkers in the Orthodox community. As a result of this observation, this study recommends an evaluation and understanding of the experiences of creative and spiritual adults in the religious community as well. Research comparing adult experiences in the community to student experiences in school, or coping mechanisms across varying ages or gender may be areas of study worth further investigation.

Interventions to prevent defection. Not all creative and spiritual students experience negative emotions and weak support for their strengths. Interventions such as supportive parenting or sufficient creative outlets may directly counter negative experiences if they do exist. Personal traits such as perseverance or intelligence may also offer students cognitive and emotional coping tools with which to address negative feelings. Identifying these potential traits or interventions, however, was not undertaken in the current study.

For creative or spiritual students who do drop out of religious school or religion altogether, can particular traits or experiences be identified that differentiate them from students who choose to stay? Do creative or spiritual students who remain religious despite obstacles share common traits or experience common interventions that may be most helpful in keeping them religiously committed? Exploring Interventions or traits that might make defection more or less likely for creative and spiritual students would be an area worth future investigation.

Newly developed arts programs. In religious communities across North America, the UK, and Israel, programs have developed in recent years to train or support young religious girls in artistic domains. These programs include summer camps, extra-curricular dance or arts programs, and even a seminary and high school. For students attending these programs and receiving unprecedented support and training in creative domains, how will their participation impact their overall well-being, class and social experiences, and confidence in settings of prayer? Will these programs supporting artistic expression impact their creative and spiritual success in other areas? How will these programs change student experiences both in and out of school for creative and spiritual students in the future? This study suggests the value of a longitudinal study that can address these questions.

Changes for teachers or schools. Based on current study data as well as much peer-reviewed literature, classroom teachers or administrators may be able to adopt practices to positively impact school experiences for creative and spiritual students. Much empirical research exists on methods to support creativity in the classroom, and data from RUACH research can be used to identify environmental factors that support students' spirituality in a Jewish school. School-wide plans for improvement can be developed, or teachers may use strategies within their classroom or privately with students in need. Understanding the ways in which an environment impacts creative and spiritual students can lead to further research as well as the design or application of methods for improvement of services for these students in Orthodox schools.

Understanding contradictory religious positions. Religious teachings may seem to reflect positions that can challenge natural dispositions towards creativity or

spirituality. For example, while there is much support for *kavannah* and other terms denoting "spirituality" within Jewish texts generally, some texts or a teacher's approach may minimize the import of personal, emotional connection in lieu of proper behavioral practice. Authority figures may encourage conformity to traditional customs while disencouraging personal exploration, discovery and independence in decision making.

Understanding the primary texts and religious beliefs that discourage support for creativity and spirituality can be a first step for Orthodox communities. In helping creatively or spiritually inclined adolescents, knowing the sources and contexts of philosophical obstacles within Jewish religion itself may be necessary before such obstacles are surmounted. Whether undertaken in the context of academic research or among rabbinic scholars, this process may be a fundamental step in helping creative and spiritual students.

Conclusion

Understanding the salient strengths as well as challenges of the creative disposition is quintessential to helping creative children, adolescents and young adults thrive in a school setting and in life. Greater knowledge will help communities, schools and teachers identify and interpret creative behavior with awareness and care, preventing mistaken diagnoses or judgment of students. In more active cases, programs may be developed to provide intervention measures for creative students in helping them express their unique strengths and manage their weaknesses successfully.

Data emerging from this study involves the recognition of cognitive and emotional traits particular to creative individuals, as well as their unique experience in religious schooling. Most striking may be the strong positive correlation of artistic ability with the disposition to seek meaning, among other constructs associated with a spiritual disposition. Also evidenced in subjects are significant negative correlation with traits conventional and commonplace, above average ability in generating new ideas and solutions helpful to others, thinking intensively and seeking independence in decision making, as well as recognized achievement in at least one domain of the arts. This study finds that when one of these traits appears, the others are also likely to present.

Equipped with this awareness, educators can interpret creative behavior as natural disposition rather than defiance, as well as provide support to help these students thrive.

Awareness may also help educators appreciate creative students as a population with "gifts" to support and foster. In the development of gifted programming, educators can utilize knowledge that the majority of creative students appreciate autonomy, seek to understand meaning and purpose behind their actions, value introspection, and have many interests, as well above average talent in the arts, to ensure consideration of these elements in the creation of a successful program.

Finally, observations of the spiritually alienating elements in a large number of Jewish schools should influence Jewish educators towards change that may benefit not only creative students, but all students. Some striking areas in which Jewish schools might improve include the creation of a safe environment in which students can speak openly with adults about questions of faith or belief if they arise, the responsibility of

religious teachers to meet the highest standards of honesty and humility if teaching a

belief system that includes such values, and the recognition that an internal religious

experience beyond behavioral practices alone, empirically characterized as "spiritual,"

may be fundamentally important for some students.

With awareness and recognition of the natural strengths of creative students, this

gifted population may encounter less challenges and more success during their adolescent

years. With adequate support, these students may have increased well-being, less

inclination towards depression or defection from authority, and may even rise to become

leaders in their generation.

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Appendix A

IRB Notifications of Approval

Appendix B

Study Questionnaire Versions

Appendix C

Consent Letter from Tzohar

Appendix D

Cover Letter & Consent Form for Parents

Appendix E

Arts Domain Lists

Appendix F

RIBS Full T-test Results