
Creativity and Competition: The Beatles

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ABSTRACT: This article examines creativity, in particular the success of the British pop group The Beatles. The results suggest that The Beatles should not be seen as creative geniuses but as a creative process. Seeing creativity as a process suggests that experimental studies of one creative act may have limited value to real-world creativity. Behind The Beatles creative process were two dominant forces. First was the importance of rivalry as a contributor to creative enhancement. Second was the nature of the working team that possessed high levels of exchange and complimentary blends of expertise and thinking styles. This article also suggests that the structure of incentives is important in determining the nature of creative output.

The propensity of competition to deliver creativity and innovation is one of the basic tenets of free market economics. The logic is that economic agents are forced to innovate to compete. The resulting innovation either creates value that contributes to human welfare and/or results in better resource utilization. Attacks on the efficacy of competition are not new, as evidenced by the writings of 19th century Marxists. In recent years, some feminists have also attacked competition as one correlate of reactionary macho attitudes (Abra, 1993). However, a new range of attacks has appeared, from otherwise sympathetic corners. For example, Elleson (1983), who does not deny basic attributes of competition, stated that in the modern U.S. environment, competition has reached a disproportionate position where it is delivering a number of negative affects including the generation of stress, reducing personal trust and emotional security, and extinguishing altruistic behavior. It also engenders fear and hostility, which inhibit the establishment of interpersonal relationships and produce a status and power oriented social structure.

Many writers have attacked the notion that competition and external rewards contribute to creativity. For example, Lepper, Green, and Nisbett (1973) discovered that children who were originally interested in an activity lost motivation if they saw it in terms of achieving an extrinsic goal. Other research that shows children who lost their initially high level of interest when working for an expected reward include Green and Lepper (1974), Lepper and Green (1978), and Loveland and Olley (1979). More specifically, a body of research states that competition constrains creativity. These include Brown and Gaynor (1967); Deci, Betley, Kahle, Abrams, and Porac (1981); Deci and Ryan (1980); and McGlynn, Gibbs, and Roberts (1982). In 1982, Amabile and Brandeis conducted a study of girls aged 7–11 who were asked to make paper collages, some under the conditions where they competed and some not competing. Amabile and Brandeis found that competition for prizes was found to have a detrimental effect on creativity but a positive effect on technical aspects of performance. The authors concluded that competition and other forms of extrinsic motivation are detrimental to creativity. At the core of this research lies the argument that external rewards and competition distract from the “joy of doing,” which initially motivated the children. People are most creative when they are intrinsically motivated, that is when they are interested in the task itself.

However, the research is not conclusive. Lehmann and Ericsson (1998) have argued that the skills of performing musicians have gradually improved over the last three centuries and have attributed the cause to

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competition (and changes in public music performance). The only problem is that their research is concerned with musical performance, not creativity. The two require a different set of skills. More directly focused on creativity is a study of Indian school students that found creativity was enhanced by the offer of a monetary reward to those who scored the highest on a test of creativity (Raina, 1968). Cummings and Oldham (1997) and Torrance (1965) have also shown that competition boosts creativity in individuals.

In an attempt to explain these different results, Garczynski (1996) drew on "Cognitive evaluation theory," which states that competition has two elements that affect motivation. One is the controlling aspect, in which pressure to achieve has a negative affect on motivation. The other is the informational aspect, which promotes perceived mastery of the task and enhance intrinsic motivation. Garczynski conducted an experiment that reinforced the idea that competition does have a negative effect on intrinsic motivation. However, when competence feedback was provided, intrinsic motivation was maintained and there were no differences in creativity. In a second experiment, they found that participants who won their competition did not differ in intrinsic motivation from those participants who weren't competing. On the other hand, those participants who lost experienced reduced motivation for the task but once again positive competence feedback decreased this effect. It is notable that there were no differences in creativity between the groups. Clearly, positive information flows, a feature not always included in competitions, are vital for maintaining motivation.

Eisenberger and Cameron (1996) claimed that rewards can increase creativity, and studies that say the opposite have studied creativity under highly restricted conditions that can easily be avoided. Deci and Ryan (2000) offered a new angle, suggesting that extrinsic motivations can be internalized, after which they can approximate intrinsic motivation. Hennessey and Amabile (1998, p. 675), who previously championed the case against rewards and competitions, accept some of this rationale, admitting that rewards do not always lessen task interest and creativity, but nevertheless they concluded that "the preponderance of evidence demonstrates that reward, under circumstances that are likely to occur naturally in classrooms and workplaces every day, can be damaging to both intrinsic motivation and creativity."

When competition is attacked, it is frequently contrasted with cooperation, which is seen as a superior arrangement in delivering creativity (Kohn, 1986). However, as Abra (1993) argued, creative work has frequently been driven by both competition and cooperation. The two are not mutually exclusive and are in fact inextricably entwined. These dual motives are most visible in sport and embodied in teams. Even adversaries in sport have a genuine respect and affection for each other, and are attracted to the sport for the sense of community that exists with other players, colleagues as well as adversaries.

Abra argued that creative work in practice involves many motivations, and previous studies have simplified motivations. In this light it is interesting to examine the motivations of entrepreneurs. Low and Abrahamson (1997) have suggested that motivations for entrepreneurs vary over the life cycle of the product. The sort of entrepreneur who launches a new product is most likely to be motivated by technical or social goals. As the product advances through its life cycle, the entrepreneurs creating new businesses are most likely to be risk seekers with a bias for action and motivated by the desire to build a business and earn financial returns. Finally, as the life cycle advances into its later stages, new creators of business will most likely be motivated by a number of financial and social goals, perhaps a desire to be self-employed. The description of the "bias for action" entrepreneur suggests that some creative people may in fact be motivated by competition per se. This supports Abra's notion that competition can be fun.

Abra also criticized the anticompetition research in the use of subjects that focus on either children or college students performing simplified tasks. This is a long way from the real world, in which a number of hard-nosed activities are required to bring a creative work to the world. The evidence from past creators indicates that talented youngsters must learn to handle intimidating experiences, including competition. Artists must overcome rejection and a number of significant barriers. They must learn to be tough. Learning to handle frustration and failure is an important part of the creative process.

By focusing on the creation of one item, the early studies also ignore the learning process that occurs over time. With more experience and information on the task, creativity may in fact be enhanced by competition. It is significant that Herbert Simon (1988) stated

that a prerequisite of creativity is being an expert and undergoing a significant process of learning. Similarly, Gardner (1993) referred to a “10-year rule,” which states that great artists do not deliver their great works until they have had 10 years practicing.

This suggests that we should stop studying examples where one item is created in isolation from all that has gone before, and we should spend more time studying the creative process of artists who have produced what is recognized as world-class art. This suggests more research should be spent on individual case histories, and some of the processes that lead up to it (Gruber, 1980, 1988). Such an approach to studying the development of creativity was early conducted by Pariser (1991), who looked at formative years of Klee, Picasso, and Lautrec. However, this approach contains problems. First, we are limited by the material available on certain artists and even when an artist has introspectively revealed their creative motives, their own interpretations might not be free of bias, in particular self-serving bias. Another weakness is, in relying on secondary sources, it is dependent on the interpretation of the writer and editor. Finally, my own training and outlook may lead to unintentional bias in the selection of data.

Despite these failings, The Beatles serve as an excellent case study. The high public profile ensured that their motives and activities were well documented throughout their career, and recently have become compiled in *The Beatles Anthology* (The Beatles, 2000) and *The Making of Sergeant Pepper* (1992). Analysis of these documents provides interesting insight into the creative process.

The Environment in Liverpool

The Beatles’ creative career was influenced by the broader external environment, including time and location. In the late 1950s, British rock ’n’ roll music was internationally insignificant. The genre was totally dominated by America, where it was born from a fusion of European and African musical traditions. Also significant was the wealth of America. The youth of America could afford to buy records and, in so doing, support an industry that was steadily improving its technical capabilities. It was an environment that enabled companies to produce music they could export to the world.

In contrast to the United States, Europe was much poorer. Although World War II finished in 1945, Europe had a lot of rebuilding to do. As Keith Richards of the Rolling Stones stated, “World War 2 stopped in 1959 for my generation. ... Up until then it was a load of rubble and rationing books. It took the entire 1950s for Britain to climb out of that” (“Sympathy for an Old Devil,” 1995). By the 1960s, when The Beatles appeared, conspicuous consumption became more evident, providing a broader market that could support innovation in the domestic recording industry.

It was in Liverpool that rock ’n’ roll music first established itself in Britain. One reason for this is its port function. The port of Liverpool served the Atlantic Ocean, bringing cotton grown in the United States to the Lancashire Cotton mills. The ships often bought other imports to the Merseyside docks, including records by American blues and country and western music. Consequently, people living in Liverpool had a stronger exposure to American music than in other parts of Britain.

Another reason for Liverpool becoming the English font for popular music, identified by Beatles manager George Martin (1994, p. 41), was the location of U.S. military forces. During World War II, the biggest single site for U.S. forces was at RAF Burtonwood, a few miles northeast of Liverpool. This base became so large that it was known as “little America,” and the 18,000 U.S. servicemen and women living in their barracks brought to England things from home, including their favorite records. As the locals became increasingly familiar with the Americans based there, they came to love American music and, by the 1950s, youngsters in Liverpool were borrowing from the imported American styles. It was in this environment that The Beatles grew up. Their idols included Americans Elvis Presley, Little Richard, Jerry Lee Lewis, and Chuck Berry.

Early Mediocrity

The story of how The Beatles started is well known. They worked in Hamburg’s Reeperbahn district and Liverpool’s Cavern night-club before being picked up by Brian Epstein who left his job managing his father’s record store to manage them. Epstein approached record company after record company trying to get a record contract, but received continual rejection. The la-

bels that turned the Beatles down included Decca, Columbia, HMV, and Pye. Finally, someone suggested they try Parlophone, an EMI label specializing in comedy records. He thought to himself, “Good Lord, I’ve really hit the bottom now” (Martin, 1994, p. 28). These rejections indicate just how mediocre the Beatles were at the time.

The comedy label was managed by George Martin. When The Beatles were introduced to Martin, he too was not impressed by their demo tape. Nevertheless, he was struck by their charisma and felt there was something there:

I was looking for a new Buddy Holly and the Crickets, for a new Cliff Richard and the Shadows. I didn’t see them as a group. Would it be Paul McCartney and The Beatles, or John Lennon and The Beatles. ... Then they played “Love Me Do.” ... And it suddenly hit me, right between the eyes. This was a group I was listening to. I should take them as a group and make them as a group. That distinctive harmony, that unique blend of sound - that was the selling point. That was the “something” I had dimly recognised from the demo lacquers. ... The 64,000 question was, would it sell? (Martin, 1994, pp. 31–32)

As history now shows, The Beatles’ distinctive harmonies certainly sold. However, The Beatles early compositions showed no sign of their later genius. “Love Me Do” was very simple. They could not fill an album with marketable compositions. Six of the songs on their first album were covers of American songs. Similarly, their second album, *With The Beatles*, needed six cover songs such as “Roll over Beethoven” to bring up the numbers. But, their music developed dramatically beyond its initial simplicity, as George Martin explained: “When I first met them, they really couldn’t write a decent song. ‘Love Me Do’ was the best they could give me yet, did they blossom as songwriters in a way that was breathtaking” (*The Making of Sergeant Pepper*, 1992).

From the outset, John Lennon and Paul McCartney had a desire to develop their song writing. They were constantly looking at what others were doing and trying to better it. As a result, their music slowly became more sophisticated. When they wrote “From Me to You,” they changed from a major to a minor key during a song for the first time. In “She Loves You,” their lyrics progressed from being about first person relationships to third person. John’s lyrics moved from fantasy relationships to broader emotional and philosophical

issues. Having started in 1962 with “Please Please Me,” by 1964, he was asking *Please, please help me* as his lyrics began to reflect troughs of depression he was becoming vulnerable to.

With the song “Yesterday” they made their first big departure from the standard rock ’n’ roll line up opting instead for a string quartet and single acoustic guitar. Once experimentation had begun, it had a snow-balling effect that came to characterize their music. By the time they made *Rubber Soul*, The Beatles were beginning to strongly expand their range. George Harrison had introduced the sitar on the song “Norwegian Wood,” and the album included the romantic ballad “Michelle.” The experimentation continued on the next album, *Revolver*. On this album, Paul continues to develop his romantic ballads with “Here, There and Everywhere” but it was “Tomorrow Never Knows” that represented the strongest break with the past. Using lyrics from the *Tibetan Book of the Dead*, the song was written in only one chord (C) but involved strong experimentation with the available recording technology and continued use of Indian instruments. The intricate nature of the songs was such that it was not possible to perform their latest material live.

Behind this process of “continuous improvement” was an artistic curiosity and desire to improve, but another essential component was the nature of John and Paul’s relationship; they were very competitive. John Lennon describes how “There was a little competition between Paul and me as to who got the A side, who got the hit singles. If you notice, in the early days the majority of the singles—in the movies and everything—were mine” (The Beatles, 2000, p. 160). Paul McCartney explains how this rivalry affected their creative output:

He’d write “Strawberry Fields.” I’d go away and write “Penny Lane.” If I’d write “I’m Down,” he’d go away and write something similar to that ... you know, to compete with each other. But it wasn’t. ... It was very friendly competition because we were both going to share in the rewards anyway. But, it was real, it was this (Paul with his hands indicates gradually progressive steps). It really helped step ... so we were getting better and better and better all the time. (*The Making of Sergeant Pepper*, 1992)

The shared rewards included the fact that, if one of them wrote an excellent song, The Beatles as a group benefited in performing it. Second, the composition accreditation was shared by both of the songwriters. Re-

ardless of whether Paul or John dominated on a certain piece, it would be recorded as a Lennon and McCartney composition. Nevertheless, the importance of this internal competition should not be understated. George Martin goes as far as saying that it was at the core of their working relationship “was that element of competition, and the competition was the essential thing that made them work so well” (*The Making of Sergeant Pepper*, 1992).

External Competition

The spirit of competition or “creative rivalry” also came from outside the group. Competition raised the quality, not only of The Beatles output, but also the output of the groups with which they competed, in particular, their competition with the Beach Boys. George Martin defined it as a “curious Transatlantic slugging match, a rivalry conducted by means of songwriting and recording genius” (Martin, 1994, p. 49). The Beach Boys were a popular American group in the early 1960s whose music and lively harmonies spoke of fun and the beach life. They had been very popular so were sensitive to the new challenge coming from Britain.

When The Beatles single “I Want To Hold Your Hand” was released in the United States, it sold 500,000 copies in less than a week, easily dwarfing the previous sales record set by the Beach Boys’ “Surfin USA” (Wilson & Gold, 1991, p. 89). To make matters worse for the Beach Boys, their next single “Fun, Fun, Fun” could not climb any higher than number 5 on the charts. The first four spots were occupied by The Beatles. Brian Wilson of the Beach Boys felt intimidated by this new competition.

I was depressed, really low. ... There was just one way to get over that depression. I had to create a new song. I had to look beyond what I had already done, beyond the horizon, and find something new and better than anything I'd done before. (Wilson & Gold, 1991, p. 90)

The Beach Boys responded with a great song, “I Get Around,” which went to number 1 in the charts. Their next song, “Help me Rhonda,” also went to number 1. But The Beatles continued to haunt Wilson. In most music polls, the Beach Boys were neck and neck with

The Beatles as the world’s most popular group (Wilson & Gold, 1991, p. 89).

The next Beatles album (*Rubber Soul*) severely knocked Wilson: “That album is just blowing my mind. ... They put only great stuff on the album. That’s what I want to do.” He went away saying “I’m going to make the greatest album! The greatest rock album ever made!” The result was *Pet Sounds*, which pushed pop music in new directions. The competition was heating up. The Beatles were left in total admiration of Brian Wilson. George Martin describes how it inspired them:

Wilson’s contrapuntal writing on *Pet Sounds* ... enthused them and fired up their (Beatles) own song writing. Their own harmonies started to get more complicated: the voices started to “answer” one another. “She’s leaving home” is a two part contrapuntal piece, John’s and Paul’s, interweave and compliment one another (and are in turn pointed up by the strings). The Beach Boys, until *Pepper* at least, were more skilled at doing this kind of thing than John, Paul, George and Ringo. “God only knows,” track eight on the Beach Boys’ *Pet Sounds* album, really made The Beatles sit up and take notice of the opposition. (Martin, 1994, p. 48)

George Martin’s use of the word *opposition* provides some light on this creative process. Brian Wilson had beaten The Beatles, but he didn’t stop there. His next single was “Good Vibrations,” which went to number 1 around the world. With this behind them, the Beach Boys topped the *New Musical Express* reader’s poll as the most popular group in England for 1966. The Beatles were in second place (*New Musical Express*, 1966).

The Beatles analysed the album *Pet Sounds* in depth. Paul McCartney notes:

To me, the single biggest influence on *Sergeant Pepper* was the Beach Boys record *Pet Sounds* and I think Brian Wilson was a great genius. ... It’s actually very clever just, on any level. If you approach it from a writer’s point of view, it’s very cleverly written. The harmonic structures are very very clever. If you approach it from an arrangers point of view, the kind of instruments he’s got on there; a sort of an oscillator, a harpsichord, you know he’s got some crazy stuff in there. ... It’s the instruments he uses and the way he places them against each other. It’s very cleverly done. It’s a really clever album. So we were inspired by you know, and nicked a few ideas. (*The Making of Sergeant Pepper*, 1992)

After hearing *Pet Sounds*, The Beatles asked George Martin, “could we do as well as that?” He responded “No. We can do better” (Martin, 1994, p. 49).

The Beatles response was *Sergeant Pepper*, an album that redefined the possibilities of pop music and sound recording. With *Sergeant Pepper*, The Beatles reached a plateau that they managed to maintain. It marked the final victory for The Beatles. From that point on, the Beach Boys were no longer in their league.

In the literature on the competition between The Beatles and the Beach Boys, the words they use to describe each other illustrate a high level of respect. Words such as “clever,” “genius,” and “great” are used to describe their rival, and there is a high level of analysis of each other’s output. The respectful and analytical nature of the relationship may have contributed to heightening creativity, as the achievements they needed to beat were fully acknowledged. This respect for expertise was also found in Sutton and Hargadon’s (1996) study of coworkers who competed in brainstorming sessions.

Although the literature reveals that all the songwriters were inspired by their competition, there is one key difference: Brian Wilson also reports depression and feelings of inferiority in the face of daunting competition. However, in these years, this does not appear to have impacted on his creativity. In fact, he appears to have used it as motivation. Nevertheless, given the linkage between depression and reduced motivation levels, this would leave open the possibility that, in some circumstance, competition can have a negative effect. It suggests the benefits of competition may depend to some degree on personality type and the existence of a support team.

The Beatles were a team. They had two top composers constantly assisting and raising each other’s standards. They also had George Martin, who brought their images to life. George Martin was classically trained and accustomed to writing scores for orchestral instruments. He combined this with an interest in electronic sounds, having earlier released a single of his own. Equally valuable was Martin’s background in recording comedy, in which he had to create atmosphere and “sound pictures” for the comedy acts he recorded. The Beatles’ creative team was formidable. In contrast, Brian Wilson was the Beach Boys’ sole composer, arranger, and producer. Although at times he collaborated with talented individuals, the team process found in The Beatles did not exist. There was not the same internal creative rivalry or interchange of ideas or experiences. In fact, Wilson had to fight with the rest of the group to get his progressive ideas accepted. The rest of

the group wanted songs that reflected the old Beach Boys “fun in the sun” formula. Brian Wilson had shared with Paul McCartney a healthy musical intellect and curiosity, and most importantly, an attitude of working hard. But alone, he could no longer compete with The Beatles. His next project, *Smile*, which arguably could have competed with *Sergeant Pepper* in terms of innovation, was not completed until much later.

The Working Team

As much as competition was a key aspect of their continual improvement, what The Beatles achieved was also a function of their working team and the relationships between them. This is consistent with a number of writers who stress the importance of a working team and its structure. For example, Rogers (1954) suggested that the cohesiveness of a workgroup determines the degree to which individuals believe that they can introduce new ideas without personal censure. In this light, The Beatles and Beach Boys form significant contrasts. The other Beach Boys did not welcome Brian Wilson’s innovations whereas The Beatles encouraged each other to innovate.

The Beatles team also reflects that high-quality team member exchange (TMX) identified by Sears (1989), in which mutual trust and respect contribute to cooperation and collaboration. As Paul McCartney stated, “part of the secret collaboration was that we liked each other. We liked singing at each other” (The Beatles, 2000, p. 196). There appears to be no “holding back” in The Beatles and they were aware that sharing their ideas was one way of seeing the ideas developed and brought to fruition. This can be seen in John Lennon’s description of the composition of the song “Michelle”:

I wrote the middle eight of Michelle, one of Paul’s songs. ... He walked in and hummed the first few bars, with the words and he says “Where do I go from here?” I had been listening to Nina Simone—I think it was “I put a spell on You.” There was line in it that went: “I love you, I love you, I love you.” That’s what made me think of the middle eight.

My contribution to Paul’s songs was to add a little bluesy edge to them. Otherwise “Michelle” is a straight ballad. He provided a lightness, an optimism while I would always go for sadness, the discords, the bluesy notes. (The Beatles, 2000, p. 197)

Although this study contradicts Amabile's findings on the negative effect of competition, it does support other factors she identified in her 1998 paper, which she said were important for creativity. These include work group design, in particular bringing together people with different expertise and creative thinking styles to create a team with the right chemistry. Although The Beatles team was not designed, it contained a blend of expertise and thinking styles that resulted in a high level of chemistry. As the previous description illustrates, Lennon and McCartney brought different composition styles. But it also carried across to their lyrics. Paul would write stories like a novelist about characters like meter maids and barbers. Whereas Paul wrote about people from his imagination, John wrote in the first person about his feelings and experiences.

The relationship in the team was not static and evolved over time. In the early days, there was a lot of collaboration on a single song, but over time, they spent more time working alone. The first truly solo effort came with Paul McCartney's song "Yesterday." No other Beatle was involved in the songwriting or production. This led to the question of whether it should be released as a Paul McCartney song, but this had hints of splitting the band up. "So even though none of the others appeared on the record, it was still The Beatles—that was the creed of the day" (The Beatles, 2000, p. 175). They had consciously decided that they were a team.

A song once written would be given to George Martin, who had the musical and technical knowledge to translate their musical ideas into a full composition. At the same time as the composers demanded more from themselves, they also demanded more of Martin, who revealed that "They started telling me what they wanted and pressing me for more ideas and for more ways of translating those ideas into reality" (The Beatles, 2000, p. 206). It is clear that, at times, Martin's offerings went beyond production, for example, in writing a baroque-style solo in the song "In My Life." In many cases, Lennon or McCartney would have an idea that they wanted to use, but it was Martin who made that sound a reality. The nature of the instruction suggests that his role in creating the Beatle sound was pivotal:

In terms of asking me for particular interpretations, John was the least articulate. He would deal in moods, he would deal in colours, almost, and he would never be specific about what

instruments or what line I had. I would do that myself. Paul, however, would actually sit down at the piano with me, and work things out. John was more likely to say (as in the case of *Being for the Benefit of Mr Kite!*) "It's a fairground sequence. I want to be in that circus atmosphere; I want to smell the sawdust when I hear that song." So it was up to me to provide that. (The Beatles, 2000, p. 247)

Amabile (1998) stressed that there are three major components of creativity: expertise, creative-thinking skill, and intrinsic task motivation. Simon (1988) had earlier stressed the importance of expertise to creativity. In the early years, none of The Beatles had significant expertise in music or technology. This was provided by George Martin while the Liverpool musicians provided their knowledge in rock 'n' roll. Over time, the band gained greater expertise and it is significant that on later albums Martin was overlooked as a producer.

What Lennon and McCartney lacked in expertise, they more than made up for in the second component identified by Amabile (1998): creative thinking. By that she means the propensity to take new perspectives and take risks with little concern for social approval. The Beatles scored highly on this and there are no shortage of examples where, on being told how something was done, they would deliberately do it differently. They were naturally curious. As George Martin stated, "The Beatles were always looking for new sounds, always looking to a new horizon, and it was a continual and happy strain to try and provide new things for them. They were always waiting to try new instruments even when they didn't know much about them" (The Beatles, 2000, p. 196). For example, at the time *Revolver* was written, Paul was paying attention to avant-garde artists such as Stockhausen and John Cage, as well as developments in the visual arts. There has been some linkage of drug use to their musical experimentation; however, John Lennon stated that "They don't make you write any better. I never wrote any better stuff because I was an acid or not on acid" (The Beatles, 2000, p. 194).

The third aspect stressed by Amabile (1998) is intrinsic motivation, a factor that is characterized in the phrase "do what you love and you should love what you do." There is no doubt that all members of the team were doing what they had a passion for. Extrinsic motivations also played a key part. Fame was a strong incentive for The Beatles. Their dream was to be bigger than Elvis but their focus was always "a few yards

ahead” (The Beatles, 2000, p. 185). There is some suggestion that they also monitored their records in the charts, so chart success was also a motivator, although John Lennon is not fully supportive of this (The Beatles, 2000, p. 239). This focus on fame is consistent with Sutton and Hargadon’s 1996 study of a product design firm where brainstorming had become a status auction, and this competition for status motivated workers to put in extra effort.

Amabile (1998) also identified three organizational components (features of the work environment) considered necessary for innovation. These include the organizational motivation to innovate, resources, and managerial practices. The first of these refers to the extent that the organization values creativity and innovation. In the 1960s, the music industry certainly valued creativity and innovation although, to some extent, this was a result of The Beatles’ ground-breaking work. The success they achieved by pushing the boundaries made these valued attributes. The Beatles’ record company EMI was happy to accommodate new ideas while it continued to generate success.

The second organizational component identified by Amabile is resources, and here The Beatles were on their own. Few artists would be allowed the 6 months in a recording studio that The Beatles took for *Sergeant Pepper*. The normal period of time was 3 weeks for an album. Nevertheless, The Beatles did not get away with this without the record company “screaming” (The Beatles, 2000, p. 253).

The last of the three components is management practices. Nothing in the available literature suggests that this was a major contributor to the creativity of The Beatles. In terms of artist management, Brian Epstein was certainly open to their creativity, but none of his practices, nor those of the record companies, seem to have had an impact. The only exemption was the level of freedom they allowed. This is consistent with Amabile (1998, p. 81), who stated that “People will be more creative ... if you give them freedom to decide how to climb a particular mountain. You needn’t let them choose which mountain to climb. In fact, clearly specified goals often enhance people’s creativity.”

There were negative aspects to this creative freedom. While working on *Magical Mystery Tour*, George Martin felt the freedom achieved in *Pepper* was going over the top. There was less mental discipline exerted, to which Martin offered some criticism. The songs given to George Martin for the *White Album* left him

overwhelmed in their number but underwhelmed in their quality. He wanted to reduce the number to produce a very good single album. Significantly missing from the literature about this period is any mention of external rivalry, and this may help to explain the reduced quality.

George Martin raised another factor to explain this high-quantity/low-quality problem; their contract with EMI. The large number of songs helped to get rid of their contract with EMI. This raises the relationship of incentives to creativity. Incentives that stress quantity and not quality will result in output of high numbers but questionable quality. Fortunately, this decline in quality was masked to some degree by the fact that George Harrison’s expertise had grown and he was now contributing to the songwriting pool.

The arrival of George Harrison as songwriter reflected another change in the team over time: a gradual growth in expertise. This had a consequence in altering the dynamics of the team structure. Other changes in dynamics include George Martin’s role. Initially, Martin had more control over what happened in the studio but over time the band became more confident and he and the staff at EMI became more relaxed as a result of the continued success, and they were given more freedom in the studio. Another long-term consequence was that the members became less dependent on each other, and there was a notable rise in solo songwriting efforts, and George Martin was at times replaced as a producer. It also led to more competition getting songs on an album. With these changing dynamics, it seemed inevitable that the team would finally self-destruct.

Conclusion

Each creative output of The Beatles reflected its own combination of competition, team participation, and team dynamics. The importance of competence contradicts earlier studies by Amabile and colleagues (Amabile, 1998; Amabile & Brandeis, 1982; Amabile & Hennessey, 1992; Amabile, Hill, Hennessey, & Tighe, 1994), yet competition existed in two forms. First was the internal competition, which supports Abra’s (1993) notion that competition and cooperation can be extrinsically entwined. The second form of competition was the external competition with no cooperative ties. This plurality of competition is not unique in the world of arts. For example, the cubist

painters Picasso and Braque had an innovation-centered collaboration. Theirs was an intimate relationship that did much to advance cubism. Gardner (1993, p. 161) described it as “good natured competition as well as cooperation; sometimes one man hid his work from the other; and especially after 1911, each man strove to outdo the other in inventiveness.”

Not only did Picasso have this internal competition, but he also had an external rivalry with Matisse, fueled by the Stein family, which bought most of their paintings. The relationship, in this case based on their two very different approaches to painting, “bred a rivalry that proved to be one of the richest and most productive in Western Art” (Spurling, 1998, p. 405). We could almost paraphrase Paul McCartney’s earlier comment and say, if “Matisse would paint *Blue Nude*, Picasso would go away and paint *Nude with Drapery*.” Each pursued goals that were the opposite of the other’s, in a series of dueling canvases.

Another standout feature of The Beatles’ experience was that their creative improvements were a process of gradual continuous improvement over time. This can be linked to the competitive process and a growing expertise. Given The Beatles’ subsequent success, the people who refused to sign them in their early days are frequently seen as stupid. However, this ignores the underlying process. The Beatles were not that good in the early days and getting signed by a comedy label is not a compliment. Clearly, no one at the record companies who had The Beatles knock at their door thought they were a team of creative genius. The Beatles were a process of mutually reinforcing personalities and talents that created continual improvement that resulted in creative genius. The long-term success was in many ways a result of forces and personal interactions that developed after George Martin signed them. It is a product of their commitment to continuous improvement. This suggests that creative geniuses are not born. They are made.

The companies that turned The Beatles down have often been the laughing stock of the industry. However, they had no idea of the processes that were about to be unleashed and even George Martin, who did sign them, had no idea of what was to unfold. If another company had signed them and given them a producer whose personality and talents differed from George Martin, that process might not have been released. The constant calls in the 1970s for The Beatles to reform were similarly misdirected. If The Beatles had reformed, they

would unlikely have generated the same levels of creativity. The personalities would have changed dramatically, with implications for their individual offerings, curiosity, and motivations, although there is no doubt that each member had a much higher level of expertise. In that way, The Beatles also acted as an incubator for four subsequent acts that later spun off. It is notable that the most successful was Paul McCartney, who most fervently applied himself to continuous improvement and who Ringo describes as a workaholic (*The Making of Sergeant Pepper*, 1992).

This study differs from classroom-type studies in that it incorporates a series of creative outputs over time. Ford (1996) and Drazin, Glynn, and Kazanjian (1999) had earlier incorporated time into a model of creativity, but the process identified in this article is different from Drazin et al.’s, which shows how the focus of a project changes with different crises. The process seen at work here is one of continuous improvement and learning. It is a process in which a product is not made in isolation to the one made before it. The two represent a process of continuous improvement and learning. Through the process of creation, The Beatles developed higher skill levels and knowledge about technologies, resources, and their own abilities. They were learning more about what is creatively possible. Seen in this light, a single creative act is only a part of a larger, longer process.

Seeing creativity as a time- and learning-dependent process is compatible with the work of Dosi (1982) and Nelson and Winter (1982), who introduced the idea of trajectories. Nelson and Winter (1982) stated that the solutions we create for technical problems are determined by our knowledge, investment, and routines built up over time. A new technology is developed along a path that reflects these endowments. Nelson and Winter called these paths “natural trajectories,” a reflection that advance follows advance in a way that appears almost inevitable given the technical endowment. The concept of trajectories states that what we learn in the past determines what we create in the future. Our creativity is path dependent, and marries well with Cohen and Levinthal’s (1990) notion of absorptive capacity. In their work, which includes reference to Nelson and Winter (1982), Cohen and Levinthal argued that expertise developed in the past shapes the ability of an individual or organization to create. That absorptive capacity determines areas of future activity. The concept of trajectories is not completely new to

creativity (for example, see Tahir & Gruber, 2003) and is related to the evolving systems approach to creativity. Earlier, Pariser (1991) identified trajectories in the graphic development of Klee, Lautrec, and Picasso.

For groups, an important aspect that may be dependent on time is the time required to develop high-quality team member exchange, trust, and methods of working within the group. Certainly, in their study of brainstorming, Sutton and Hargadon (1996) found that brainstorming skills took time to develop, and studies of performance and cohesiveness show that groups that have existed over time perform better than groups that were artificially put together for research (Mullen & Copper, 1994). However, in an earlier study, Scott and Bruce (1994) found no relationship between innovation and team member exchange, although this might be because of low levels of interdependence on the tasks undertaken. A group may involve morale-building behavior that helps to combat negative effects of competition. Groups and individuals in them will also have a history of reinforced intrinsic motivation, internalized extrinsic motivation, success, and failures that have been overcome. These will all buttress the creator against the negative effects of competition. Children without this history may indeed find that competition detracts from creativity.

Seeing creativity as a process suggests that academic studies where one item is created, such as schoolchildren writing poetry, may have little applicability to the real world in which creativity is an extension of previous learning and relationships. This study also suggests, and opens as a possible area for future research, the idea that there may be a greater difference than previously recognized between creativity (the act of creating) and innovation (doing something new). The terms *creativity* and *innovation* are often used as similes; however, there may need to be greater distinction between the act of creating and the act of innovating. Creativity may well be driven by intrinsic motivation, whereas innovation may be driven by extrinsic motivation and the need to surpass previous standards. Such a distinction accommodates the possibility that a creative genius might be prolific but not innovative.

The Beatles were both intrinsically motivated by their love of music and extrinsically motivated. External rewards such as getting on the A side, getting high in charts, fame, and surpassing their heroes were clear incentives for them, although some of them may have

been more influenced by any particular reward than others. The structure of the reward system may play a large part in the cooperation–competition dichotomy. Although they competed, the incentive structure was one in which most rewards were shared. We might normally expect this to lead to free-rider behavior and resentment, but not in the case of The Beatles as all parties contributed, due to the nature of their relationship or their intrinsic motivation.

It is also significant that the nature of the extrinsic motivation shaped the nature of the creative output during the *White Album* period, with George Martin linking their high-quantity/low-quality to the desire to complete their record contract. Clearly, extrinsic rewards can shape either the innovative or prolific nature of creativity. In the case of The Beatles, competition-based incentives, such as outperforming the competition, enhanced innovation. Competition continuously raised the benchmark of what is required to be the best or most successful. When combined with the team dynamics, competition resulted in world class innovation and creativity.

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