**Project 1 : Research Critique – Comparison/Contrast Paper**

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SPP Graduate Certificate program, University of Western States

COUN 6550 : Sport Psychology

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**Article 1**

Westlund Stewart, N. & Hall, C. (2016). The Effect of Cognitive General Imagery Use on Decision Accuracy and Speed in Curling. *The Sports Psychologist*, 2016, 30,305-313. <http://dx.dOi.Org/10.1123/tsp.2016-0001>

**Purpose of study**

The purpose of this study is to examine the effects of Cognitive General (CG) imagery use over a 6 weeks period on the strategic decision making in curling and to determine the effect on curlers abilities in imagery and the use of it is improved. The study focuses on varsity curlers in a Canadian institution and how this has an impact on their working memory (WM) capabilities, therefore their speed in processing possible game scenarios and the impact on the quality of their decision-making.

**Methods**

11 varsity athletes, men and women from a postsecondary school in Southwestern Ontario that had on average 13.27 years of curling experience including competition at national level took part to a 6 week CG imagery intervention. These athletes were both active on ice and off ice 2.45 days per week and be classified as intermediate and advanced athletes. Basic demographics were collected through a questionnaire, and a “curling strategic assessment tool (CSAT) – computer based - with 12 curling scenarios was created to assess the strategic abilities of the athletes. This would ask them to respond to scenarios including most of the real game elements (teams, stones, and advantage) and situations (offensive shot, defensive shot, etc). Imagery ability was assessed via a Movement Imagery Questionnaire-Revised (MIQ-R). This was repeatedly used at each imagery session to assess the evolution of the athletes’ ability to use imagery over the 6 weeks program. A Sport Imagery Questionnaire (SIQ) was the base to assess the usage of imagery by the athletes through the 6 weeks. Last, an Imagery Assessment Questionnaire (IAQ) was used to understand if the athletes were using (or not) the imagery systematically over the program time.

Time was dedicated before each team practice to explain the study, as well as to complete the MIQ-RT and the SIQ. The guided image intervention itself took place regularly before the teams’ practices over the 6 weeks period and short versions of the SIQ and IAQ were filled to track the weekly evolution. The imagery sessions themselves would consist of having the researcher setting up a relaxing environment and guiding the athletes through imagery scripts that contained strategic background curling related information, so that the athletes could imagine the configuration of the rocks in the playing area. Every week the curlers would be given copy of the script to practice the imagery back at home.

Lastly, the CSAT was fill once at the beginning of the research to serve as a baseline, and a second time after the 6 weeks intervention for final results.

**Results**

Overall strategic ability was found to be similar in terms of correct responses (86.36% post-intervention vs. 87.88% baseline); however the response time shortened by more than 3 seconds from 19.29 s baseline to 18.82 s post-intervention.

Imagery ability and use was consistent amongst the 11 participants and CG imagery showed significant improvement reaching 5.80 (on 7 points Lickert scale) at post-intervention vs. 5.12 at baseline.

Adherence during week 2-5 was poor outside the weekly guided imagery sessions with an average number of at home practice times of merely 1.14 (SD=0.95), which due to the standard deviation could be even seen as close to zero for some of the athletes. On the effectiveness side, athletes gave an overall 6.85 /10 rating (SD=2.52). There again we can notice a certain polarization of the receptivity on CG Imagery.

**Discussion and Conclusions**

Curling is considered as the “chess on Ice” and there were many reasons for wanting to find useful results transferrable to athletes in order to improve their performances in their decision-making during competitions. The results about the lack of impact on the quality of the decision making can be seen as a deception, but we must take into consideration that those athletes, being experienced are have learned the game and acquired the decisional skills that are build up through game experience where the WM capacities matter the most. The increase in speed for those decision is a great outcome, knowing that overall the entire game the athletes have only 38 min of thinking time for the entire team (30sec per shot on average). Knowing that almost 9 out of 10 times the decisions are the right ones, we can say the room for improvement was easily more on the decisional speed. If the athletes would be less experienced, there would have probably been a focus on finding the correct answer rather than improving the speed of decision-making.

The imagery ability score shows the withdrawal from usage when not being guided (or socially pressured?), and it is important to mention that 4 athletes missed one week of group sessions, this probably impacting the final results. However the ability of imagery comes with the systematic use of it and if the more you do the more you can, the opposite is true too. And adherence to the training is somehow discouraging as we have proofs of how much it can support athletes’ performances. I believe that in the case of sports like curling or other reflective sports, that already require a lot of cognitive efforts, it does probably look as a redundant to the athletes to train imagery all by themselves. And maybe this is a limitation the researchers didn’t include in their study’s design; a lot of questionnaires that might have made the experience more bureaucratic than part of a holistic sports training.

**Article 2**

Muir, I.,Chandler, K., & Loughead, T. (2018). A Qualitative Investigation of Young Female Dancers’ Use of Imagery. *The Sports Psychologist*, 2018, 32,263-274. https://doi.org/10.1123/tsp.2017-0123

**Purpose of study**

The purpose of this study is to examine the 4 Ws of imagery use (Where, When, What and Why) with of youth female dancers, in order to understand what are the similarities, differences vs. previous studies made on adult female dancers and to possibly discover new insights on the use by that specific younger population. An important element of the study is that despite the large amount of research on imagery use in sports, the field of Dance has a very different and personal definition of the word imagery. Indeed if imagery is a mental tool that most athletes use for skills development, arousal control and situations, dancers tend to use it in an indirect way and metaphorical manner, such as imagining object not present or impersonating an animal and his traits, both needed to imitate, envision and provide the most accurate performance. As well the research hypothesized as a possible outcome some tangible applications of imagery by dance instructors for, again, the youth dancers.

**Methods**

A qualitative approach has been determined as the privileged approach for the research, using interpretive phenomenology for the inquiry, in order to used the researcher’s previous knowledge on the phenomenon – here the previous study on the adult dancers –as a guide for findings and groups moderation; equally important to mention that a reflexive journal was maintained in order to scout what pre–existing biases the researcher could have and influence the balance between deductive and inductive techniques and outcomes. Regarding the details of the focus groups, the recruitment criteria were to have females dancers from different dance studios in southwestern Ontario region; 23 dancers from 7-14 years of age (M=10.43, SD = 2.19) that participated in various dance styles (e.g. ballet, tap, jazz, hip hop, etc), with 2 to 12 years of dance experience (M=7.82, SD=2,77) were grouped into 4 focus groups with 5-7 participants in each and split by age cohorts (7-8, 9-10, 11-12, 13-14). Interview guides were defined around the 4 Ws of Imagery and each of the groups’ interviews, lead by a moderator with the assistance of a technical assistant in charge recording and taking notes lasted 45-60 minutes. Transcripts and verbatim of the sessions were then codified and entered into the QSR NVivo 11 software package to regroup and analyze the data by categorizing it. To make sure this was done effectively and to ensure the trustworthiness of the process, 20% the investigator’s initial coding was also coded by an expert in the field to see the level of agreement between the two : 93% was found, which is above the 85% recommended threshold in use. Last but not least, an ethical approval was obtained from the University of Windsor, as well as consent from the tutors or parents in charge of the youth dancers, the study being performed with minors.

**Results**

The results were regrouped under the 4 Ws of Imagery: first of all, *Where* was defined more often quoted as the studio (n=4), competitions (n=7), recitals (n=3), conventions (n=4), backstage (n=3) and changing room (n=1). To report as well that the usage is usually done in more than one setting, such as backstage and then onstage, while completing chores or in the school setting (reviewing a dance routine at one’s desk).

*When* was more often used on stage (n=17), while on stage (n=10), during practice (n=8), after a mistake (n=15), prior to competition (n=7), after competition (n=6), at bedtime (n=3) and during free time (n=2). The different moments dedicated to the use of imagery would be used to reduce anxiety, to learn a challenging style during practice, when experiencing difficulties or as a preparation before a performance. *What* meant two different types of images: the imagery types, aka what is being imaged vs. imagery characteristics, aka the qualitative attributes of the images. Imagery types resulted in technique imagery (imagining a full routine prior to performing or specific steps, or envisioning oneself as a professional dancer to dance better), metaphorical imagery (inclusion of non existing objects like kicking them or walking on them, imaging actions that are not possible like touching both sides of the stage simultaneously to stretch oneself or impersonating an animal to perform with its characteristics), feedback imagery (for corrections and mentoring), goal imagery (winning a medal, receiving a prize) , environmental imagery (people (n=5), places (n=4), spacing (n=2)) and character/role imagery (appearance which in dance means embracing the qualities of a particular dance style, and emotions when impersonating a character on stage ). Imagery characteristics were related to the speed of the imagery (slow motion (n=10), real-time (n=13) and fast forward (n=1)), valence (use of positive imagery for improving technique and confidence and negative imagery when in doubts, afraid of mistakes of injury), senses (visual (n=12), kinesthetic (n=10) and auditory (n=8), and both internal and external perspective), vividness (extremely vivid when imaged in a slower speed) and changes (changes from when they started dancing to their current level of expertise).

*Why* had cognitive reasons related to learning and improving (n=17), reviewing (n=4), memorizing (n=3), organizing (n=2), fixing mistakes (n=8) and avoiding mistakes (n=4), motivational purpose in increasing self-confidence and seek encouragement when fatigued, artistic results like seeking inspiration (n=6), portray emotion (n=2), take on character/role (n=4) and appearance (n=2), and eventually the notion of enjoyment for the sake of the fun and happiness in dancing.

A last element was on How the dancers would create the images, and three different categories emerged : imagery triggers (n=7), creating videos/stories( in their minds) (n=6) and layering images (n=6).

**Discussion and Conclusions**

First of all, most of the findings were similar to the ones previously identified by the pre-existing study on adult dancers. If the use of imagery was somehow similar to other athletes in other fields, the research confirmed that dance has is specificities such as metaphorical, feedback and character/role imagery, that could be related to the artistic nature of the discipline, where portraying emotions or roles are part of the engagement with the audience. The results showed that younger dancers have a use of imagery tied to their technical limitations and mastery of dance; indeed professionals have rather a higher self-efficacy in overcoming challenges without the use of imagery while young dancers would rely on it more often and therefore use more uniquely imagery for feedback and correction purposes. This is interestingly potentially linked to the overall children growth that shows the 5-9 years of age as essentially better in performing and acquisition of a skill while being stimulated visually and verbally. This leads to advising dance professors to integrate a lot of imagery in their lessons for that specific age, including triggers as music, positive appraisal and creative / fun metaphorical imager, as it is critical for that’s age group to receive positive feedback from a perceived authority, that feedback being crucial to their development of their self-esteem. Another important element for the youth dancers is the use of imagery to memorize and organize the styles, steps and routines they are learning, while professional dancers do not, probably because of their elite status and having already a build-up database of steps and dance expressions learned and consolidated. The original limitations that were expected due to the young age of the dancers and therefore their ability to use imagery were not found to be remarkable. However the limitations of the research itself are the ones related to the gender (only girls participated, though the ratio in dance classes is by default 1 boy for 10 girls) and the fact that each focus group included only dancers from one studio, which can be detrimental to the diversity of philosophies and impacting the behavioral and cognitive approach to dance. Last limitation is the lack of questionnaire to assess youth in their use of imagery, and a possible measurement tool development could be a angle for a new research, as well as understanding the use of imagery for a boy population. I would add that the idea of developing a qualitative research for that age group is a great way to get enough material to be considered as a base study to support further developments and angles, having the verbatim to start from and the codification of the outcome to cross reference and consider new possible insights to gather.

**Comparison/Contrast of 2 articles and Personal Evalation**

Both studies focused on the use of imagery and how athletes can use them in different contexts related to their sports specifics. If the young dancers were in a learning phase and therefore having recourse to imagery for developing their practice, gathering feedback and correcting learning, the curlers that were more experienced didn’t find out a clear systematic use of imagery maybe because of their level of mastery. Another major difference between the two studies is that Muir, ,Chandler & Loughead (2018) could base their research on preexisting material in the very same field and opt for a qualitative approach while Westlund Stewart & Hall (2016) started from scratch and needed to get quantitative data to lay the base of possible future researches, and therefore might have been influential in the repetitive use of questionnaires. To me, this might have been the trigger to the downside in their results regarding the ability and adherence of athletes to the use of CG Imagery : performance enhancement solutions like imagery have to always be customized to the athletes and simple to be systematic (KISS acronym - “keep it simple and systematic”, Williams & Krane, 2015). The very interesting parts for each of these studies is how they show that uniqueness in every discipline and how creative/artistic sports have a metaphorical interest in imagery while a structured rational and highly cognitive/reflective sport could depend on imagery for brain plasticity and Working Memory improvement.

As a conclusion, I would simply take that not only studies require the knowledge of the branch, the sports disciplines, the methods of inquiry, the ethical challenges but a lot of curiosity and creativity, just like a sports and performance consultant should be having in his practice. This field is in perpetual movement and changes, form athletes to sports rules, education and societal environments; a lot more needs to be discovered and analyzed, but just like the youth dancers used a technique, it feels always better when the fun is part of the equation.

**References**

Williams, J. M. & Krane, V. (2015). *Applied sport psychology: Personal growth to peak performance* (7th Ed.). Mountain View, CA: Mayfield. McGraw-Hill. ISBN-13: 978-0078022708

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| --- | --- | --- |
| **Criteria Weight** | **Possible Points** | **Your Points** |
| Accuracy of interpretation-discussion | 20 |  |
| Scope—all questions answered in sufficient detail (following instructions) | 20 |  |
| Your views and opinion | 20 |  |
| Clarity and quality of writing | 20 |  |
| Grammar, spelling, and format using the above guidelines | 20 |  |
| **Total** | **100** |  |

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| **Rubric for COUN6550 - Research Critique** | **Beginning**  **0 points** | **Needs Improvement**  **14 points** | **Acceptable**  **16 points** | **Accomplished**  **18 points** | **Exemplary**  **20 points** |
| Accuracy of interpretation-discussion | Fails to identify a relevant research topic or is not clearly defined. | Paper does not successfully identify thesis. Analysis is vague or not evident. Reader is confused or may be misinformed | Information supports thesis at times. Analysis is basic or general. Reader gains few insights. | Information provides firm support for thesis and displays evidence of a basic analysis of a sufficiently limited topic. Reader gains some insights | Even, balanced information clearly and effectively supports a central purpose or thesis and displays a thoughtful, in-depth analysis of a sufficiently limited topic. Reader gains insights. |
| Scope—all questions answered in sufficient detail (following instructions) | Results reported do not answer the proposed research questions. | Results reported incompletely answer the proposed research questions | Results reported partially answer the proposed research questions | Results reported clearly answer the proposed research questions. | Results reported clearly and fully answer the proposed research questions. |
| Your views and opinions | Views and opinions are not supported by the research (e.g., paper has no citations, no connection back to the literature) | Views and opinions are unclear. The connections to the literature are incorrect or unclear, or just a repetition of the findings without explanation. | Views and opinions are clearly stated, however there is limited support by the literature or connection to research is unclear. Minor errors in logic are present. | Views and opinions are clearly stated. With moderate support by the literature. Connection to research is clear. | Views and opinions are clearly stated and adequately supported by the literature. Connection to research is clear. |
| Clarity and quality of writing | The writing  g is poor style lacking in elements of appropriate standard English. | The writing lacks any semblance of logical organization. The reader cannot identify a line of reasoning and loses interest | The writing is not arranged logically. Frequently, ideas fail to make sense together. Reader can figure out what writer probably intends but may not be motivated to do so. | The ideas are arranged logically to support the thesis. They are usually clearly linked to each other. For the most part, reader can follow line of reasoning | The ideas are arranged logically to support the thesis. They flow smoothly from one to another and are clearly linked to each other. Reader can follow line of reasoning. |
| Grammar, spelling, and format using the below guidelines https://owl.english.purdue.edu/owl/resource/560/10/ | Does not follow APA format. The paper was obviously not proofread for spelling and grammar errors. | Numerous errors in APA format (e.g., in-text citation errors) and spelling and grammar errors. | There are occasional (e.g., 3-4) errors in APA formatting, however, does not represent a major distraction or obscure the meaning. Some spelling and grammar errors. | Conforms to all the required specifications of the APA style and has few errors in the use of headings, in-text citations, and references | Conforms to all the required specifications of the APA style and has no errors in the use of headings, in-text citations, and references. |