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Relative judgments and collective experience in basketball training

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Declaration by Author

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Statement of Contributions by Others to the Thesis as a Whole

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Abstract

Relativism appears to be embodied in sport performance since athletics are attained through comparisons with other athletes' achievements. Nevertheless sport studies have not as yet empirically investigated whether athletes evaluate in absolute or relative terms their affective, cognitive and behavioral responses to sport performance. The purpose of this study was to explore whether athletes engage absolute or relative forms in evaluation during the prediction and the real experience of a physical task. Participants were 181 basketball players with mean age 19.61 (\pm 5.72) years and mean competitive experience 7.16 (\pm 5.13) years who took part in a field experiment with a between-subject design. Results from two-way (2 x 2) ANOVAs showed support for the presence of relativism during the predicted ($F(1, 87) = 3.19, p = .078$) and the real experience evaluation ($F(1, 176) = 7.36, p = .007$). Findings suggest that minimizing the differences during the training leads to enhance collective experience.

Keywords: Evaluation, collective experience, relative judgment, field experiment.

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Introduction

Suppose a coach or a physical education teacher asks participants to rehearse a physical task within a usual training routine. The task is typical and athletes are used to practice it on a regular basis, thereby they don't require any instructional information. Would participants in this scenario evaluate their participation in absolute terms that is based solely on the task characteristics? Or their evaluation would be based in relative terms depending also on what others perform? Notably, what kind of evaluation would the coach or the physical education teacher expect?

The debate whether happiness and satisfaction depend on absolute or relative levels of desired outcomes became a central inquiry for social psychologists and behaviorists. The absolute view as described by Hsee, Yang, Li, and Shen (2009), holds that some central aspect of experience, thought or evaluation depends on absolute values such as absolute levels of wealth or consumption. The relative view on the other hand postulates that experiences, thoughts or evaluations are relative to something else (Swoyer, 2010) and it's not the absolute value of wealth that is important in order to be happy, but rather how our wealth or consumption levels correspond to wealth or consumption levels of other people (Hsee, 2000).

A growing body of research in psychology challenged the traditional view of thinking that happiness and satisfaction simply relies on absolute values (e.g., Hsee, Hastie, & Chen, 2008; Kahneman, Kruger, Schkade, Schwarz, & Stone 2004). Kahneman and Tversky (1979) showed that our perceptual apparatus is attuned to the evaluation of changes or differences rather than to the evaluation of absolute magnitudes, and that stimuli are perceived in relation to a reference point. For example, if we immerse our hand in water of 15 degrees Celsius and then immerse it again to 30 degrees Celsius, the latter feels hot. In contrast, if we immerse our hand in

45 degrees and then immerse it to 30 degrees, the latter feels cold. Scholars who endorse this relativistic perspective concluded that recent experiences evoke distinct evaluations of the same stimuli and that these differences are grounded on distinct responses in the brain (e.g., Breiter, Aharon, Kahneman, Dale & Shizgal, 2001).

Relativistic forms of evaluation appear to be an integral part of sport performance since athletic achievements typically take place in competition with others. For example, Medvec, Madey, and Gilovich (1995) found that in the 1992 Summer Olympic athletes who received a silver medal were less happy than those who received a bronze medal, despite the fact that silver medalists performed better than the bronze medalists. These authors explained the findings by stating that the silver medalists might have compared their performance to the gold medalists, whereas the bronze medalists might have compared their performance to the contestants who did not receive any medal. Similar counterfactual comparisons were also captured in McGraw, Mellers, and Tetlock (2004) study where Olympic athletes compared their achievements with their prior expectations. Results revealed that athletes were happier with their performance when their performance surpassed personal expectations than when performance fell below personal expectations. This was despite the fact that happier athletes performed worse than the less happy athletes.

Despite some scarce evidence for relativism, generally speaking sport studies have not as yet experimentally controlled for absolute forms of evaluation to examine impact of comparisons on evaluations. For example, in Medvek et al. athletes' desires were not manipulated experimentally. Thus, it is imminent and important to systematically examine relativistic nature of evaluation processes. Foremost, if this study shows that evaluation of attributes is relative then a new process of evaluation

in sport would be uncovered. Furthermore, the absolute-relative debate has important social implications. An absolute view posits that individuals ignore alternatives and consequently collective happiness and motivation are evaluated based on an attribute or task characteristics exclusively. A relative view on the other hand entails that collective happiness and motivation is affected by interpersonal comparisons and that alternatives affect evaluation of an attribute or a task (e.g., Hsee, Yang, Li, & Shen, 2009; Hsee & Zhang, 2010). To illustrate this point let's consider following example; collective happiness may be affected when part of a team is told to practice an alternate activity in order to make a better use of a practice space, or to increase enjoyment of a team by introducing variety in a training. However at that time, the comparison processes are triggered which in consequence may perturb collective experience, impairing affective, cognitive and behavioral responses to performed task. From this relative perspective minimizing differences in perceived experiences can maximize collective happiness.

The present study attempts to explore whether athletes evaluate affective, cognitive and behavioral responses to sport performance in absolute or relative terms. For that purpose, research findings and ideas from judgment and decision-making literature were used, and Hsee's (1996) general evaluability theory and in particular the evaluability hypothesis. The remaining part of this thesis is organized as follow. First I introduce evaluation modes and the evaluability hypothesis, which explains why individuals adopt relativistic form of evaluation. Although this study does not test the evaluability hypothesis itself, I present it in this research because it clarifies further why athletes may adopt relativistic modes of evaluation in a sport context. Next, I will present empirical results, which examine formation of relative evaluations

in sport settings. In conclusion, the findings are discussed in the light of previous studies and presented together with implications for sport practitioners.

Literature Review

Relative and Absolute Forms of Evaluation

Hsee (1996; 2000) proposed that all judgments and decisions are made in one (or some combination) of two basic evaluation modes. Evaluation mode refers to whether the stimulus options are presented separately and evaluated by two different groups of people (the *separate evaluation* mode), or presented side by side and evaluated by the same people (the *joint evaluation* mode) (cf., Goldstein & Einhorn, 1987; Bazerman, Loewenstein, & White, 1992). Thus, in a single mode (absolute evaluation), individuals evaluate an attribute in isolation and in lieu of any external information (Hsee, 1996; Hsee and Zhang, 2010). In laboratory settings, the separate evaluation mode is induced by presenting evaluators with a single event (i.e., a physical task) and asking them to evaluate it individually (e.g., Hsee & Rottenstreich, 2004; Hsee, Yang, Li, & Shen, 2009). In contrast, in a joint evaluation mode, two or more alternatives are juxtaposed and evaluators are asked to evaluate them simultaneously. Hence, the joint evaluation mode prompts a relative evaluation because simultaneous presentation of two events urges evaluators compare one event against the other during the evaluation process (Hsee & Rottenstreich, 2004). Given that manipulations of the two evaluation modes differ on number of events that are present during the evaluation process only, it is inferred that individuals engage in relative evaluations if it is shown that the two modes yield predictably different evaluations (Hsee et al., 1999; Kahneman, 2003).

To illustrate how exactly evaluation modes may affect evaluation of a task that involves physical exertion, suppose that two groups of basketball players are

presented with descriptions of two basketball tasks such as running and shooting. Now suppose that each group is asked to evaluate running or shooting individually and that individuals within each group do not know which task the other group evaluates. In each of these groups, individuals are likely to evaluate tasks on the basis of their characteristics (in isolation) and affective reactions that these characteristics elicit because the evaluation contexts does not prompt comparisons (see also Hsee & Leclerc, 1998; Hsee & Rottenstreich, 2004). Assuming that shooting elicits more positive affect than running, it is predicted that shooting will be evaluated more positively than running during separate and joint evaluation modes. However, running may elicits even less of a positive affect if running is compared against shooting (as in a joint evaluation mode; Hsee & Zhang, 2004). The reason for this is that comparing running to shooting reveals weaknesses of running hence running is less enjoyable than shooting (see also Hsee & Leclerc, 1998; Hsee & Rottenstreich, 2004). Respectively, shooting may elicit more positive affect when it is compared against running than when it is not. The reason for this is that comparisons reveal that shooting is more favorable and enjoyable than running (i.e., a strength of positive attribute of shooting). It is conjectured that comparisons will more likely harm evaluations of running and benefit evaluations of shooting because empirical evidence suggests that comparisons are more likely to harm subjective responses to less attractive events such as running and benefit subjective responses to more attractive events such as shooting (e.g., Hsee & Leclerc, 1998).

Evaluability hypothesis: When and Why Individuals Evaluate Experiences in Relative Terms

In a nutshell, the evaluability of an attribute describes the ease with which an individual evaluates that attribute. Evaluability depends on two factors. The first

factor pertains to whether or not individuals possess an inherent system or scale that allows them to gauge desirability of an attribute and map this desirability onto an evaluative response (Hsee, Loewenstein, Blount, & Bazerman, 1999; Hsee & Zhang, 2010). For example, experiences associated with ambient temperature are inherently evaluable because individuals possess thermoregulatory system that allows them evaluate ambient temperature relatively accurately. In contrast, wearing a 9-karat diamond is not inherently evaluable because not all individuals know the worth or value of a 9-karat diamond. The second factor pertains to knowledge about which value of an attribute is neutral, best possible or worst possible values or any other information that helps the evaluator map a given value of an attribute onto a response (Hsee, Yang, Li, & Shen, 2009). For example, diamond traders and experts may find it easier to evaluate a 9-karat diamond than inexperienced buyers because the former individuals are more knowledgeable about value of karats than the latter individuals.

The evaluability of an attribute is conceptually linked to formation of relative responses because it is generally assumed that individuals are more likely to rely on external information and standards during evaluation processes when the “to be evaluated” target is difficult to evaluate. These difficult to evaluate targets are referred in literature to inherently inevaluable (Hsee, 1996). Thus for example, individuals are more likely to evaluate diamonds than ambient temperature in relative terms because diamonds are less evaluable (or more inevaluable) relative to ambient temperature. This study surmises that sport performance and tasks that involve physical exertion may be evaluable because physical exertion induces immediate psychobiological changes that are sensed by individuals. Hence, it is hypothesised that athletes will evaluate tasks that induce physical exertion in absolute terms. An absolute pattern of evaluation is obtained if attractive tasks are evaluated more positively than less

attractive tasks within single evaluation conditions (see Hsee et al., 1999). Thus, for example if basketball players who are knowledgeable about running and shooting evaluate shooting more positively than running in conditions that induce a single evaluation mode then it is concluded that basketball players can evaluate corresponding tasks in absolute terms. Yet, as Kahneman (1993) advocated, individuals may engage in relative modes of evaluation even when they evaluate inherently evaluable attributes as in the example from the introduction, where warm water feels less warm after we immerse our hands into warmer water. Hsee, Yang, Li, and Shen (2009) explained further that during consumption attributes that satisfy psychobiological needs are evaluated in absolute terms like during consumption of milk, whereas attributes that don't satisfy these needs are evaluated in relative terms such as wearing a diamond ring. Sport participation appears relative in nature because athletes continuously use external criterion to judge their participation and achievement. Therefore, despite the evaluability of attributes, during the real experience, I expect athletes to engage in processes of comparisons when the external reference information is salient.

Current study does not dispute the notion that athletes would evaluate physical tasks in absolute terms. Rather, it is conjectured that athletes would also evaluate physical tasks in relative terms when the context calls for relative evaluations and comparisons. Thus, for example, it is argued that athletes would evaluate the less attractive tasks (i.e., running) less positively in joint evaluation conditions than in separate evaluation conditions because comparisons, which are induced in joint evaluation conditions, reveal weakness of the less attractive task (see Kahneman, 2003; Fliessbach, Weber, Trautner, & Dohmen et al., 2007).

The present empirical study adds to existing judgment and decision-making literature in two important ways. First, it examines whether individuals adopt a relativistic mode of evaluation even when they evaluate evaluable experiences, that is, experiences that are relatively easy to evaluate. This contribution to the extant literature is unique because previous studies did not examine whether evaluable experiences were evaluated in relative terms. For example, while Hsee et al. (2009) established that consumption of milk (an inherently evaluable experience) is evaluated in absolute terms, these authors did not have joint mode conditions to establish whether consumption of milk is evaluated also in relative terms. As a consequence, previous studies have not estimated how much comparisons, within joint evaluation modes, harm evaluations of evaluable experiences.

Second, this study examines the impact of comparisons on two types of evaluations, namely, real evaluations and predicted evaluations. In general, predicted evaluations describe evaluations of future events or experiences and are assessed by asking participants to evaluate such prospective events or experiences. Real evaluations on the other hand describe evaluations that are formed during or after exposure to an event (Dolan & Kahneman, 2008). In theory, individuals should be less sensitive to alternatives, and hence form absolute evaluations, when they evaluate real experiences because during behavioral exposure, individuals directly experience or sense the task. Such direct sensory experiences may focus attention on attributes of the task since they provide individuals with some input to evaluate. In contrast, during prediction, such direct sensory input is often missing and in a consequence, individuals may have to rely on some external information to predict how bad or good an upcoming experience might be (Hsee, Yang, Li, & Shen, 2009). This study adds to existing literature because previous studies stemming from judgment and decision-

making (e.g., Hsee, Loewenstein, Blount, & Bazerman, 1999; Hsee & Zhang, 2004; Yang, Hsee, Liu, & Zhang, 2011) examined relative nature of predicted experiences and less so relative nature of real experiences.

Moreover, the study provides a conservative test of the hypothesis that individuals evaluate real experiences in relative terms. In general, previous studies stemming from judgment and decision-making literature examined relativistic nature of experiences associated with acquisition of money (e.g., Hsee et al., 2009; Hsee & Leclerc, 1998; Hsee & Zhang, 2010). However, acquisition of money is hard to evaluate because money is a token that leads to consumption experiences that may be evaluable in different degrees. My study adds to existing literature because tasks that involve physical exertion are easier to evaluate since physical exertion produces psycho-physiological changes that are sensed by individuals.

Overview of the Study and Hypothesis

The purpose of this study was to examine whether experienced basketball players evaluated predicted and real experiences associated with two physical tasks (running and shooting) in absolute or relative terms. The general hypothesis was that athletes would evaluate predicted experiences and real experiences of running and shooting in relative terms. Specifically, it is hypothesized that (a) running would be evaluated less positively in joint evaluation conditions than in the separate evaluation conditions because running is less attractive than shooting. In the same line, it is expected that (b) in joint evaluation conditions, shooting will be evaluated more positively than running, hence the perceptible advantages of shooting task when contrasted with characteristics of a run task. It is also hypothesized that (c) shooting would be evaluated more positively than running across both evaluation conditions,

the separate and the joint mode, since the tasks are surmised to be inherently evaluable and experienced athletes are in a position to distinguish the desirability of an interesting task such as shooting from a tedious one such as running. These hypotheses are expected to hold across two conditions, the predicted evaluation and the real experience evaluation. This study provides a conservative test of whether individuals evaluate real experiences in relative terms because it involves experienced basketball players who were knowledgeable of the demands associated with physical tasks such as running and shooting and the information on the desirability of a task was unveiled implicitly.

Method

Participants and Design

The participants were 141 men and 40 women basketball players (M age = 19.61, $SD = 5.72$; M experience = 7.16, $SD = 5.13$) involved in a basketball training for at least 2 consecutive seasons. It was assumed that individuals with experience of at least two years would acquire sufficient distributional knowledge on assigned activities so the experience will be relatively evaluable. All participants were volunteers, and signed informed consent forms prior to participation. Ethical approval was obtained from the ethics committee from the University of Thessaly.

Procedure

The study took place in the practice halls of attended teams. Upon arrival, participants were informed that the purpose of the study was to investigate basketball training. Participants were randomly assigned to one of the two activity groups, running or shooting. These activities were chosen based on pilot data collected from University of Thessaly students' responses to three open questions, "What is your sport?", "What activity do you consider as interesting in your discipline?" and

“What activity do you consider as tedious in your sport discipline?”. Data from basketball players was selected ($N = 41$; $Mage = 21.98$, $SD = 2.29$, $Male = 29$, $Female = 12$), which showed that running was evaluated as tedious activity whereas shooting was described as an interesting activity. After allocation to an activity the manipulation has started accordingly to adopted condition for the attended team (prediction and performance in a single mode x 2 (run or shoot), performance in a single mode x 2 (run or shoot), prediction and performance in a joint mode and performance in a joint mode with two activities present at the same time (run and shoot)). Participants who were in the prediction and performance condition were informed about the upcoming performance, “you are about to practice run (shoot)” and directly after asked to fill in the questionnaire on predictive evaluation. Next, they were instructed to perform run (shoot) for eight consecutive minutes and immediately after asked to evaluate their experience. Participants in performance condition after the allocation to the activity group were asked to perform run (shoot) for eight consecutive minutes and immediately after evaluate their experience.

Manipulations

Type of experience. Type of experience was manipulated by having individuals perform either predicted and real experience evaluation (predictors) or only real experience evaluation (experiencers). Individuals evaluated their affective, cognitive and behavioral responses to the sport activity (run or shoot). Predictors first were informed about the activity and immediately after asked to evaluate their future performance by filling the predicted evaluation questionnaire. Next, the same participants were asked to perform the activity (run or shoot) and directly after fill in the real experience evaluation. In contrast, experiencers were asked to perform the

activity and evaluate experience immediately after exposure to the task and did not report predicted experiences (Hsee & Zhang, 2004).

Evaluation modes. Evaluation modes were manipulated by presenting individuals with either separate or joint condition of evaluation. Separate evaluation mode was induced by prompting participants to evaluate only one activity at a time. The team was presented with run or shoot and all present players evaluated and performed the same task. In contrast, in the joint mode, players were randomly assigned to one of the two activities. The team was presented with both activities at a time and participants could clearly see the alternative activity being evaluated and performed by other players. The activity allocation was carried by a random assignment.

Dependent Variables

To examine the predicted and real experience evaluation, participants were asked to rate their feelings on affective (happiness and satisfaction), cognitive (motivation) and behavioral (perceived effort) aspects of their sport's performance. In result of an exploratory factor analysis, happiness, satisfaction, motivation and perceived effort loaded to a single factor which explained 69.3% of variance in predicted evaluation and 69.6% in real experience evaluation. Term of predicted evaluation was used to describe the sum of predicted happiness, predicted satisfaction, predicted motivation and predicted perceived effort. Term of real experience evaluation was used to describe the sum of real experience happiness, real experience satisfaction, real experience motivation and real experience perceived effort.

Predicted evaluations. To measure predicted evaluation, the items were phrased to reflect predictions. This measure was administered to examine predicted evaluations among predictors.

Real experience evaluation. To measure real experience evaluation, the items were phrased to reflect retrospective experiences. This measure was administered to all participants, the predictors and the experiencers.

Happiness. Happiness variable was measured using one item, borrowed from Hsee and Zhang (2004). The wording of this item was: ‘‘How happy are you to practice run (shoot)?’’ The scale was a 19-point semantic differential scale ranging from *very unhappy* (-9) to *very happy* (+9). The middle of the scale, which was assigned the value of zero, reflected a neutral state of happiness.

Satisfaction. The wording of this item was: ‘‘How satisfied are you to practice run (shoot)?’’ Item was measured on a 10-point scale ranging from *not at all* (1) to *very much* (10).

Motivation. The wording for this item was: ‘‘How motivated are you to practice run (shoot)?’’ Item was measured on a 10-point scale ranging from *not at all* (1) to *very much* (10).

Perceived Effort. The wording for this item was: ‘‘How much effort will you put into the practice of run (shoot)?’’ Item was measured on a 10-point scale ranging from *not at all* (1) to *very much* (10).

Data analysis

Composite variables were computed using standardized scores since the scales for measurement varied in the range. To examine the interactions between mode and activity on the predicted and the real experience evaluations the two-way (2 x 2) ANOVAs were conducted with composite variables as dependent variable and mode and activity as independent variables.

Results

To examine predicted evaluation a two-way (2 x 2) ANOVA was calculated to test for differences in evaluation as a function of evaluation mode (single versus joint) and activity (run versus shoot). The analysis showed statistically significant effect of activity on predicted evaluation, $F(1, 87) = 39.56, p = .000$, whereas the effect of mode on predicted evaluation was found not statistically significant, $F(1, 87) = 1.02, p = .315$. Furthermore, the analysis yielded a mode by activity interaction that approached significance, $F(1, 87) = 3.19, p = .078$. Examination of the pairwise comparisons revealed that (i) for participants in both, the joint and the single evaluation mode, those shooting scored higher than those running, and (ii) that for participants in the running condition, those in the single evaluation scored higher than those in the joint evaluation, whereas for those shooting participants in the single and joint evaluation did not differ.

Table 1. Mean scores for the interaction between mode and activity during predicted evaluation.

Mode	Activity	<i>M</i>	<i>SD</i>	Lower Bound	Upper Bound
Single	<i>Run</i>	5.85	2.14	5.04	6.67
	<i>Shoot</i>	7.58	1.16	6.81	8.35
Joint	<i>Run</i>	4.78	2.2	4.04	5.52
	<i>Shoot</i>	7.89	1.4	7.15	8.63

A two-way ANOVA was calculated to test real experiences for differences in evaluations as a function of evaluation mode (single versus joint) and activity (run versus shoot). The results showed statistically significant effects of activity $F(1, 176)$

= 26.12, $p = .000$, and of mode $F(1, 176) = 7.82, p = .006$ on real experience evaluation. Furthermore, the analysis yielded a significant mode by activity interaction, $F(1, 176) = 7.36, p = .007$. Examination of the pairwise comparisons revealed that (i) for participants in both the joint and the single evaluation those shooting scored higher than those running and (ii) for participants in the running condition, those in the single evaluation scored higher than those in the joint evaluation, whereas for those shooting, participants in the single and joint evaluation did not differ.

Table 2. Mean scores for the interaction between mode and activity during the real experience evaluation.

Mode	Activity	<i>M</i>	<i>SD</i>	Lower Bound	Upper Bound
Single	<i>Run</i>	6.98	2.04	6.41	7.54
	<i>Shoot</i>	7.66	1.36	7.16	8.16
Joint	<i>Run</i>	5.57	2.67	4.93	6.22
	<i>Shoot</i>	7.68	1.47	7.03	8.32

Discussion

The present study set out to examine whether athletes would evaluate predicted and real experiences of a physical task in absolute or relative terms. In accordance with the hypothesis, results showed that athletes engaged in relative processes during predicted evaluations, suggesting that athletes used more than merely tasks characteristics to predict their affective, cognitive and behavioral responses to a physical task and their predicted evaluation also depended on the mode

of evaluation that is whether alternative activity was perceptible or not. Furthermore, and more importantly, the results supported the hypothesis that athletes formed relative evaluation also during the real experiences. Previous studies reported that relative forms of evaluation are present during prediction, whereas during the real experiences individuals are more likely to evaluate in absolute terms (Hsee & Leclerc, 1998; Hsee, Yang, Li, & Shen, 2009). Thus, this study contributes to the finer understanding of evaluation processes engaged by athletes in sport settings. Gained evidence appears even more plausible considering that the experiment took place in the natural settings of attended teams, their typical practice halls. These findings are noteworthy because they bring important theoretical and practical contributions for sport practitioners.

Analysis revealed that the manipulation of mode was successful in eliciting divergent evaluations. This is because due to the presence of alternative activity among those who performed running, joint evaluators evaluated less positively their performance than separate evaluators. This tendency was observed in both types of experience, predicted and real experience evaluations. The results are consistent with previous studies, which showed that evaluation of less attractive activity in isolation is more favorable than when more interesting activity is salient. These findings confirmed speculation that the comparisons would reveal weaknesses of less interesting activity, resulting with less favorable evaluation of responses to the task (Hsee & Leclerc, 1998). Nevertheless, these results could also be explained through changes in relative weight of the attributes, which varied when evaluated separately and when compared with the alternative option (see also Fisher & Hawkins, 1993; Tversky, Sattah, & Slovic, 1988). Specifically, value and importance of less interesting activity may have been hindered by superior attribute of being interesting.

Furthermore, during both evaluation modes, task of shooting was evaluated more positively than task of running. These results support the hypothesis that athletes had some form of inherent scale to differentiate between more and less interesting activity suggesting at the same time that athletes used some of the task characteristics during the evaluation. These results were expected due to the level of performance of the players. Moreover, not in accordance to the hypothesis, during the prediction and real experience evaluation, shooting task was evaluated similarly in both evaluation modes, single and joint. These results indicate that evaluation of shoot activity is less susceptible to a change due to the presence of alternatives. In contrast, in run task, during the joint mode, evaluators assessed the activity markedly less positively than separate evaluators showing that evaluation of less interesting task is more susceptible to changes when the alternatives are present. This study shows important new insights on how the presence of alternatives affect evaluation of predicted and real experiences during two differing physical tasks.

Furthermore, these findings carry important social implications. Results showed that relative evaluations harm real experience and thus carry important information for applied settings where coaches strive for the optimum experience in their teams. The importance of these findings can be illustrated by following example. When a coach holds an absolute view, in order to enhance the enjoyment of his or her players, he or she may ask some players to perform more interesting activity. In this scenario part of his or her team will perform new activity and other will remain performing other activity. The effect he or she expects would be that the enjoyment of the athletes involved in the new activity will increase, whereas the enjoyment of the remaining athletes will stay unchanged. This study clearly showed that the increases in enjoyment occurs parallel to the detrimental descents of the enjoyment of

remaining players in the team, because athletes engage in comparisons, which were found stronger than increases, in consequence hindering collective experience.

Kahneman and Tversky (1979, 2000) showed across many disciplines that the descent is double as strong when compared to increases. The magnitude of the descent was out of the scope in the current study, however it may be noteworthy for the future investigation to inspect the extent to which interpersonal comparisons affect the evaluation.

Additionally, notable implication of the study is concerned with the measurement of predicted and real experiences. Findings imply that predicted and real experience in sport should be measured through instruments that explicitly urge individuals to compare 'to be evaluated' attribute to other alternatives in the context, which are typical to co-occur. As this study shows, athletes who evaluated task of run in separate evaluation showed systematically different responses on the same items than athletes who evaluated run in the presence of alternative activity. In the natural context of sport where relativism appears to be embodied, measurement with such relative approach may be useful in identifying alternatives that are likely to undermine or enhance performance evaluation of athletes.

Apart from demonstrating the importance of relative evaluations in sport and its social implications, this study is also generative since it delivers new avenue of testable hypotheses and provide a ground for future research. Results showed that depending on the context and salient alternatives the outcome of evaluation might be systematically different. It would be of a great benefit to investigate further which particular attributes evoke different processes of evaluations. Moreover, future research may investigate evaluability of other athletic experiences such as experiences related to task involvement and intrinsic motivation.

Conclusion

In summary, the current study showed that athletes evaluate performance in relative terms during both, predicted and real experience evaluations. More importantly, it was shown that the comparisons hindered individuals' evaluation of affective, cognitive and behavioral responses to a physical task. The results have strong ecological validity, because the experiment took place in the natural settings of attended teams. The important implication for sports practitioners is that in order to achieve more favorable affective, cognitive and behavioral responses of athletes to the physical tasks, the less interesting activities should be practiced apart from activities concerned as more interesting and that minimizing differences in perceived experiences can maximize collective experience.

References

- Bazerman, M. H., Loewenstein, G. F., & White, S. B. (1992). Reversals of preference in allocation decisions: Judging an alternative versus choosing among alternatives. *Administrative Science Quarterly*, *37*, 220–240.
- Breiter, H. C., Aharon, I., Kahneman, D., Dale, A., & Shizgal, P. (2001). Functional imaging of neural responses to expectancy and experience of monetary gains and losses. *Neuron*, *30*, 619-639.
- Dolan, P. & Kahneman, D. (2008). Interpretations of utility and their implications for the valuation of health. *The Economic Journal*, *118*, 215-234.
- Fisher, G. W., & Hawkins, S. A. (1993). Strategy compatibility, scale compatibility, and the prominence effect. *Journal of Experimental Psychology: Human Perception and Performance*, *19*, 580-597.
- Fliessbach, K., Weber, B., Trautner, P., Dohmen, T., Sunde, U., & Elger, C. E., et al., (2007). Social comparison affects reward-related brain activity in the human ventral striatum. *Science*, *318*, 1305–1308.
- Goldstein, W. M., & Einhorn, H. J. (1987). Expression theory and the preference reversal phenomena. *Psychological Review*, *94*, 236 – 254.
- Hsee, C. K. (1996). The evaluability hypothesis: An explanation for preference reversals between joint and separate evaluations of alternatives. *Organizational Behavior and Human Decision Processes*, *67*, 247–257.
- Hsee, C. K. (2000). Attribute evaluability: Its implications for joint-separate evaluation reversals and beyond. In D. Kahneman & A. Tversky (eds.), *Choices, Values and Frames* (pp. 543- 563). Cambridge, England: Cambridge University Press.

- Hsee, C. K., Hastie, R., & Chen, J. (2008). Hedonomics: Bridging decision research with happiness research. *Perspectives on Psychological Science*, 3, 224-243.
- Hsee, C. K. & Leclerc, F. (1998). Will products look more attractive when evaluated jointly or when evaluated separately? *Journal of Consumer Research*, 25, 175-186.
- Hsee, C. K., Loewenstein, G. F., Blount, S., & Bazerman, M. H. (1999). Preference reversals between joint and separate evaluations of options: A review and theoretical analysis. *Psychological Bulletin*, 125, 576-590.
- Hsee, C. K. & Rottenstreich, Y. (2004). Music, pandas and muggers: On the affective psychology of value. *Journal of Experimental Psychology*, 133, 23–30.
- Hsee, C. K., Yang, Y., Li, N., & Shen, L. (2009). Wealth, warmth, and well-being: Whether happiness is relative or absolute depends on whether it is about money, acquisition, or consumption. *Journal of Marketing Research*, 46, 396-409.
- Hsee, C. K., & Zhang, J. (2004). Distinction bias: Misprediction and mischoice due to joint evaluation. *Journal of Personality and Social Psychology*, 86, 680–695.
- Kahneman, D. (2003). A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist*, 58, 697–720.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47, 263–292.
- Kahneman, D., & Tversky, A. (2000). *Choices, Values, and Frames*. Cambridge: Cambridge University Press.
- Medvec, V. H., Madey, S. F., & Gilovich, T. (1995). When less is more: Counterfactual thinking and satisfaction among Olympic medalists. *Journal of Personality and Social Psychology*, 69, 603-610.

McGraw, P. A., Meller, B. A., & Tetlock, P. E. (2004). Expectations and emotions of Olympic athletes. *Journal of Experimental Social Psychology*, *41*, 438-446.

Swoyer, Chris, "Relativism", The Stanford Encyclopedia of Philosophy (Winter 2010 Edition), Edward N. Zalta (ed.). Retrieved April 20, 2012 from URL = <http://plato.stanford.edu/archives/win2010/entries/relativism/>.

Tversky, A., Sattah, S., & Slovic, P. (1988). Contingent weighting in judgment and choice. *Psychological Review*, *95*, 371-384.

Yang, A. X., Hsee, C. K., Liu, Y. & Zhang, L. (2011). The supremacy of singular subjectivity: Improving consumer decisions by removing specifications and comparisons. *Journal of Consumer Psychology* *21*, 393-404.

Appendix

Appendix A.

Information sheet for coaches

Experimenter: Gosia Slawinska

Graduate student of Sport and Exercise Psychology at the University of Thessaly.

Supervisor: Antonis Hatzigeorgiadis

Assistant professor at the University of Thessaly.

Intended study aims at addressing evaluation processes during sport's training.

Participants who will agree to participate in the study will be asked to read and sign consent form. Next, they will be randomly assigned to one of the two conditions, 'shooting' or 'running'.

Study involves six separate conditions and each team will take part in only one of the condition described as follow: Single Predictors RUN, Single Predictors SHOOT, Experiencers RUN, Experiencers SHOOT, Joint Predictors, and Joint Experiencers. Depending on condition, athletes would be asked to either predict (fill in predicted evaluation questionnaire) and perform or only perform an activity for the duration of eight consecutive minutes. The activity will be followed by real experience evaluation questionnaire.

Appendix B.

Informed consent form for participation in a research study**1. Title of the study**

Unwillingness bias in the training: Evaluation and the influence of alternatives.

2. Aim of the Study

The purpose of the intended study is to investigate the evaluation and the influence of alternatives during the practice session in twofold approach; the discrepancy between predictive and experiential values and the diversity between single and joint evaluation mode.

3. Description of research activities

Study will last two months and will involve one appointment for approximately two hours.

4. Risks/ discomfort involved

There is no risk involved in the study

5. Expected impact

This study aims at maximizing athletes' experience during the training by addressing factors, which influence athletes' motivation and are reflected in unwillingness bias

6. Dissemination of results

Questionnaires are anonymous

7. Further Information

Do not hesitate to make questions regarding the aim of this study or the implementation of study design. If you have any doubts or questions, do ask us for clarifications.

8. Freedom of consent

You are a volunteer participant. You are free to withdraw your consent at any time.

Participant's declaration

I read this form and I understand the procedures involved. I agree to participate in this study.

Date: ____/____/____
[Name and signature of
participant]

[Name and signature of
researcher]

[Name and signature of
witness]

Appendix C.

Questionnaire 1

Age: _____

Gender: Male Female (please circle)

Please answer the following questions.

1. Practicing RUNNING will make me feel

Very unhappy -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 **Very happy**

2. How satisfied will you be to perform RUNNING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

3. How determined would you be to perform RUNNING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

4. How much effort would you put to perform RUNNING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

Questionnaire 2.

Age: _____

Gender: Male Female (please circle)

Please answer the following questions.

1. Practicing RUNNING made me feel

Very unhappy -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 **Very happy**

2. How satisfied did you feel when RUNNING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

3. How determined did you feel to RUN?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

4. How much effort did you put into the RUNNING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

Questionnaire 3

Age: _____

Gender: Male Female (please circle)

Please answer the following questions.

1. Practicing SHOOTING will make me feel

Very unhappy -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 **Very happy**

2. How satisfied will you be to perform SHOOTING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

3. How determined would you be to perform SHOOTING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

4. How much effort would you put to perform SHOOTING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

Questionnaire 4

Age: _____

Gender: Male Female (please circle)

Please answer the following questions.

1. Practicing SHOOTING made me feel

Very unhappy -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 **Very happy**

2. How satisfied do you feel after SHOOTING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

3. How determined did you feel to SHOOT?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**

4. How much effort did you put into the SHOOTING?

Not at all 1 2 3 4 5 6 7 8 9 10 **Very much**