Embodied Celebration for Human-Centered Health Behavior Design

-How Teacher Facilitates Students' Habit Creation in Latin Dance Classes-

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Abstract: This study aimed to validate the effect of nonverbal display of celebration (refereed as "embodied celebration" in this study) as a persuasive tool for engaging individuals to health-enhancing activities. Despite that most individuals are motivated to become healthy, actually engaging with such activates has not been easy. Recent studies have pointed out that increasing motivation is inefficient for inducing such behavior. For this reason, this study was conducted in order to understand how the gap between person's intention and action can be bridged by studying experienced health coordinators' communication strategies. In particular, by conducting interviews, it was found that experienced dance teachers possess nonverbal communication strategies which persuade students to take action. Especially, their use of "embodied celebration" was considered to be very important to engage students to action through raising students' self-efficacy. In order to validate the effect of "embodied celebration", the relation between teachers' "embodied celebration" and students' class engagement were analyzed through behavior analysis under 2 conditions; in a class targeted for children and in a class targeted for adults. In both conditions, significant positive correlation was observed. From this study, it became clear that "embodied celebration" is an effective tool for persuading health-enhancing activities.

1. Background

(1). Traditional Psychological Approach to Health Behavior Change

Previous research on health behavior change primarily focused on changing *intention,* so that individuals will be motivated to act. However, recent studies have shown that this method was merely successful for behavior change in health, because there is an intention-behavior gap. Considering this point, recent studies in psychology have revealed some insights on how this gap can be bridged. In this section, 3 particular theories will be introduced.

The first theory is Health Action Process Approach (HAPA; Schwarzer, 2008). This theory argues that *action planning* and *coping planning* could bridge the intention-behavior gap. This is because it increases individual's *perceived self-efficacy*, so that they feel more confident to engage with intended behaviors. HAPA suggests that perceived self-efficacy induces action.

On the other hand, the second theory, Self Determination Theory (SDT; Deci & Ryan, 2000), argues that if the health care climate can satisfy 3 innate human needs (autonomy, competence and relatedness) it facilitates individuals to initiate and maintain health related behaviors. SDT suggests that 3 innate human needs satisfaction induces action.

The final theory, Fogg Behavior Model (FBM; Fogg,

2009), proposes that triggering the target behavior by providing individual's scarce resources when he/she is sufficiently motivated is effective for behavior change. FBM suggests that sense of ease at the right time (when there is sufficient motivation) can induce action.

To summarize, if an individual can increase perceived self-efficacy at the right moment while increasing the level of 3 innate human needs satisfaction, they will most likely to take action. In other words, it can be said that informing about their increased perceived self-efficacy and 3 innate human needs satisfaction level persuade individual to take target behaviors.

(2). Ecological Approach to Health Behavior Change

Traditional psychological theories on behavior change focuses on change in cognitive information to induce behavior change. This came from the assumption that environment exists outside of human body and mind. Traditional psychology assumed that human inputs information from the environment through perception, and that input is processed inside, and outputs accordingly as an action. This way of looking at the relation between human and environment lead theories to focus on changing cognitive information for behavior change.

However, the idea of Situated Cognition, Cognitive Coupling, and research in Ecological Psychology introduced a novice perspective of direct linkage of perception-action and environment constraining this linkage.

This suggests that perception may be overlooked for its effective role in behavior change. There is a possibility that having a specific trigger which can facilitate valuable information to be actively selected (in other words perceived) in the environment, it can induce behavior change.

To summarize, although traditionally perceptual cues were overlooked, it suggests that there is enough evidence that it may be effective for persuading behavior change.

(3). Teacher's Nonverbal Communication for Behavior Change

Studies in nonverbal communication and the idea of Cognitive Coupling suggest that communicators' implicit behavior is a crucial component for changing addressees' responses. In classroom settings, teachers' nonverbal communication facilitates students to decode information in more actionable way. In particular, dance teachers are skilled nonverbal communicators. From these reasons, it can be said that experienced dance teachers have embedded nonverbal communication strategies that facilitate students to engage with target behaviors.

(4). Summary of Background

Considering points described above, it can be said that skilled teachers may be informing about students' increased perceived self-efficacy and 3 innate human needs satisfaction level through nonverbal communication.

2. Objective

From previous findings, it can be said that expert health coordinators may be delivering information in an effective way that increases students *perceived self-efficacy* while satisfying 3 innate human needs through perceptual cues (such as body languages), as well as verbalized cues.

Although health behavior models have been researched and revealing new insights, health coordinators' nonverbal communication strategies for persuading students' health-enhancing activities have not been explored. For this reason, this research tries to examine expert dance teachers' nonverbal communication strategies that facilitate students to engage with class activities.

3. Study1. Insight of "intention-behavior gap" in Physical Activities

(1). Research Questions

This part of the research was conducted, in order to find out if intention-behavior gap can be witnessed among Japanese university students, and if so, what could be the cause. Followings are the research questions;

①*Can intention-behavior gap be observed in health behaviors among Japanese university students?*

②*Which factor is responsible for intention-behavior gap in health behaviors among Japanese university students?*

(2). Method

39 university students were asked to answer questionnaires about their opinion and engagement on physical activities. The questionnaires included 5 contents; "impression on physical activity", "stages of change for exercise behavior" (Oka et al., 2000), "social support for exercising" (Itakura et al., 2003), "decisional balance for exercising" (Oka et al., 2003), and "factors facilitate behavior" (Fogg, 2009).

(3). Result

①Impression on physical activity was 74% positive, 21% moderate, and 5%negative. On the other hand, actual engagement to physical activity was 72% habitual and 28% not doing anything. This suggests that all participants who had moderate impression consciously or unconsciously chose not to be active. It can be said that intention-behavior gap was observed.

②Out of 9 factors, 3 most significant factors that differentiate degree of engagement to physical activity were; "social support", "physical capacity", and "having a routine".

Although the popular approach to induce health action is to campaign programs which are "cheap" and "fast" (which are *personal factors*), the actual elements which create difference are more *environmental factors*.

4. Study2. Teacher's Persuasive Nonverbal Communication for Children

(1). Research Questions

This part of the research was conducted, in order to see if teachers' nonverbal display of "embodied celebration" can influence students' actual behavior. Following is the research question;

①*Does an increase in teacher's "embodied celebration" raise students' degree of engagement to class activities?*

(2). Method

4 students (aged 3-5) were video recorded during their dance class under 2 conditions;

①Teacher does intentionally more embodied celebration

②Teacher does intentionally less embodied celebration

Later on, teachers' embodied celebration and students' class engagement were analyzed.

(3). Result

Condition① had 7.92% more embodied celebration. From this result, it can be said that condition① had clearly more embodied celebration.

According to the analysis, it became clear that students' engagement was significantly higher in condition①. From this result, it can be said that teachers' embodied celebration increases students' class engagement.

5. Study3. Teacher's Persuasive Nonverbal Communication for Adults

(1). Research Questions

This part of the research was done, in order to test if teachers' nonverbal display of "embodied celebration" can influence adult students' actual behavior. Following is the research question;

①*Does an increase in teacher's "embodied celebration" raise students' excitement during the class?*

(2). Method

6 selected songs danced by the same teacher to the same 50 students were video recorded. Later on, teachers' embodied celebration was analyzed using embodied celebration coding map. In addition, students' excitement was analyzed in 2 ways;

①3 recruited observers rated students' excitement using 5-likert scale (1: not excited at all, 2: not excited, 3: so-so, 4: excited, 5: very excited).

②students' scream (duration/frequency) in each song was analyzed.

(3). Result

Frequency of embodied celebration positively correlated with students' excitement. Moreover, it became clear that doing embodied celebration *inside* choreography had more effect than doing it *outside* choreography. This may be because students are more likely to express celebration, when it is structured in choreography.

5. Conclusion

Although traditional theories on behavior change tend to focus on *personal factors* (such as motivation) to induce actions, it turned out that *environmental factors* play an important role in facilitating behavior change. In particular, in a classroom situation, teachers' embodied celebration acts as a trigger for increasing efficacy for the targeted behavior, and by doing so, it encourages behavior change. Structuring embodied celebration in the environment may be an effective strategy for inducing actions.

Reference :

[1] Schwarzer, R. (2009). The Health Action Process Approach (HAPA).

[2] Deci, L. E., & Ryan, M. R. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.

[3] Fogg, BJ. (2009). A Behavior Model for Persuasive Design.

[4] Oka, K., Takenaka, K., & Miyazaki, Y. (2000). Assessing the Stage of Change for Exercise Behavior among Young Adults: The Relationship with Self-Reported Physical Activity and Exercise Behavior. *Japanese Health Psychology*, 8, 17-23.

[5] Oka, K., Takenaka, K., & Miyazaki, Y. (2000). Assessing the stages of change for exercise behavior among young adults: The relationship with self-reported physical activity and exercise behavior. *Jpn Health Psychol* 2000, 8, 17-23.

[6] Oka, K., Hirai, K., & Tsutsumi, T. (2003). - -. , 9, 23-30.

[7] Itakura, M., Oka, K., Takeda, N., Watanabe, Y., & Nakamura, Y. (2003). . , 7, 151-158.