Perceptions of the Motivational Climate, Need Satisfaction, and Indices of Well- and Ill-Being Among Hip Hop Dancers

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Abstract

Grounded in the self-determination theoretical framework (SDT) formulated by Deci and Ryan, and specifically the basic needs mini-theory (BNT), this study examined the relationship between perceptions of the motivational climate manifested in hip hop environments, satisfaction of the three basic needs, and indicators of well- and ill-being among hip hop dancers. Fifty-nine hip hop dancers (mean age: 20.29 years) completed a questionnaire assessing the variables of interest in the study. Perceptions of a task-involving climate were positively associated with satisfaction of the needs for autonomy, competence, and relatedness. Perceptions of an ego-involving climate negatively predicted relatedness. Satisfaction of the need for competence was positively associated with positive affect, and negatively linked to negative affect. Competence need satisfaction significantly mediated the relationship between a perceived task-involving climate and positive and negative affective states. In sum, the findings provided partial support for the facets of SDT and BNT. The results also indicated that promoting the task-involving features of dance learning environments may be beneficial to dancers' well-being.

There has been a growing interest in the role instructors or coaches play in promoting the positive as well as the potentially negative psychological development of those engaged in physical activities. Research evidence from the domains of sport and physical education suggests that social-environmental factors are relevant to variability in the cognitive, behavioral, and affective patterns exhibited in athletes and physical education students.[1] However, little is known about the implications of characteristics of the dance environment for dancers' welfare and the quality of their engagement. Past studies have focused on the health status of dancers, and the prevailing evidence suggests that dancers' well-being is frequently compromised.[2] For example, research has indicated that dancers are more susceptible to eating disorders,[3] have a more negative body image, and lower self-esteem than non-dancers.[4] Other work has implicated differentiated features of the dance environment in the etiology of indicators of ill-being, such as eating pathology.[5]

One system that has recently been employed to examine the impact of social-environmental factors on optimal functioning and well-being is the self-determination theory (SDT).[6,7] Self-determination theory provides a sequential framework for examining the processes by which social-environmental factors affect the quality and quantity of engagement in important life endeavors. Self-determination theory emphasizes the reasons *why* people are engaged in certain activities, and the extent to which human behavior is self-endorsed as opposed to externally regulated. Individuals who are self-determined are said to be acting out of free choice, and feel that they are autonomous in their actions. Crucially, SDT proposes that the social environment can create conditions that foster more self-determined behavior regulations. Evidence suggests that when behaviors are more as opposed to less autonomous, ensuing cognitive, emotional, and behavioral outcomes are more positive.[8] In contrast, when actions are viewed as controlled by internal or external contingencies, negative consequences with respect to quality of behavior and mental health are expected.[6,7]

Basic needs theory (BNT),[6,9] considered to be a mini-theory of SDT,[10] stipulates that the effect of the environment on behavior regulations is not direct, but occurs as a result of the satisfaction of three universal psychological needs, namely autonomy, competence, and relatedness.

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Self-determination theory considers these basic needs to be "innate psychological nutrients that are essential for ongoing psychological growth, integrity, and well-being."[6] Autonomy concerns a sense of engaging in actions with a true sense of volition and in accordance with one's personal values and interests.[11] The need for competence is satisfied when one senses that he is operating effectively in the environment and has the ability to achieve his desired outcomes.[12] Finally, relatedness refers to the need for meaningful interpersonal relationships and social attachment, in essence an overall sense of belongingness.[13] Evidence suggests that when these three needs are satisfied the underlying behavior regulations are more self-determined and individuals function more effectively.[9] Thus, need satisfaction is believed to contribute to optimal functioning and sustained well-being.[14,15] Research to date in the physical domain has supported the tenets of BNT.[16-19] For example, teacher-created social contexts perceived as providing support for autonomy, competence, and relatedness have been found to predict need satisfaction in physical education students.[20] In turn, this led to more self-determined motivation for physical education classes and subsequently invoked well-being outcomes, including positive affect. Similar results have been found in research involving individual sport[21] and team sport[17] athletes.

The majority of SDT-based work in physical activity contexts has targeted the autonomy supportive features of the environment.[17,20-22] When an instructor provides autonomy support, he considers the other's feelings, provides opportunities for decision making and choice, and reinforces participants' belief that they are responsible for their actions.[23,24] Another aspect of the environment that has been considered is the athlete or student's perceptions of the task- and ego-involving features of the climate created by the coach or teacher.[25] Task-involving climates are characterized by features such as success being evaluated in a self-referent manner, reinforcement of individual progress, and a sense that everyone has an important role within the group.[26] Ego-involving climates are distinguished by features such as judgment of progress based on normative standards, encouragement to out perform others, and public recognition of success and failure.[1,26] Numerous studies conducted in athletic and physical education settings suggest that environments perceived as high in task-involving characteristics are associated with a wide range of positive outcomes.[27,28] For example, perceptions of a task-involving climate have been related to higher physical self-worth,[29] more self-determined behavior regulations for engagement,[30] and less reported psychological impairment during competition.[31] On the other hand, perceptions of an ego-involving climate have been linked to maladaptive responses such as reported physical symptoms,[1] experiences of emotional and physical exhaustion,[32] unhealthy eating and steroid abuse,[33] diminished self-esteem and body image, and a preoccupation with eating and weight.[28] Contemporary research also suggests that perceptions of an ego-involving climate predict burnout among elite athletes.[34]

There is a dearth of information regarding the implications of task- and ego-involving features of the motivational climate in the domain of dance. One notable study was conducted by Carr and Wyon.[35] They found perceptions of an ego-involving dance climate to positively predict dance students' degree of ego orientation, trait anxiety, and the perfectionism characteristics of high personal standards, concern over mistakes, and doubts about actions. Past research has suggested that being high in all three of these attributes is reflective of neurotic perfectionism,[36] a personality syndrome that is linked to a number of maladaptive behaviors and indices of mental health. Thus, Carr and Wyon concluded that an ego-involving motivational climate may contribute to potentially detrimental self-evaluation tendencies and the compromised welfare of dancers. While the Carr and Wyon study provided some cross-sectional evidence regarding the potential impact of motivational climate in dance, it did not target the underlying psychological mechanisms through which the social environment can influence the quality of engagement in dance and dancers' well-being.

Grounded in both the SDT and BNT frameworks, recent research has indicated that features of task-involving climates provide greater opportunities for the satisfaction of the three basic needs.[18,25] For example, in one study perceptions of a task-involving climate were found to positively predict satisfaction of the needs for autonomy, competence, and relatedness, which, in turn, predicted heightened subjective vitality.[25] There is also logic to the proposition that ego-involving climates would induce need thwarting, due to the inherent focus on inter-individual rivalry and social comparison for evaluation. However, to date there is limited empirical support for this premise.[22,25] Given the evidence linking variability in the perceived task- and ego-involving features of the motivational climate with indices of participants' welfare, further research is required on the hypothesized mediating role of need satisfaction in this relationship.

Self-determination theory considers that well-being is not simply equated to the experience of positive affect. Rather, the emphasis is on understanding the motivational factors leading to personal realization and optimal functioning (i.e., eudaimonic rather than hedonic well-being).[37] An SDT-based approach to examine the determinants of well-being recognizes that it is important to predict both positive and negative indices of welfare. In the present study we considered indicators of both well- and ill-being in dancers (namely positive affect, negative affect, and emotional and physical exhaustion).

The majority of work concerning social-contextual influences and motivational processes in dance has centered on the ballet and contem-

porary genres. To our knowledge, no research has been done with those engaged in hip hop dance. This genre encompasses a range of street dance styles, the best known being break dance and funk. Hip hop dance emerged in the 1970s as part of a subculture that developed among young, economically disadvantaged Latinos, Afro-Caribbeans, and Afro-Americans.[38] The dance form is believed to represent the experiences and practices of young people from these subcultures. Hip hop runs counter to dominance and order, reflecting an attitude of defiance.[39] Hence, it is characterized by sharp movements, spontaneity, improvisation, and the use of fragmented body parts. The dance genre has become very popular in the UK and across Europe, where hip hop competitions, companies, and classes are now commonplace.

In sum, the aims of this study were to examine the relationship between perceptions of the motivational climate, need satisfaction (autonomy, competence, and relatedness) and indicators of well-being (i.e., positive affect) and ill-being (i.e., negative affect and emotional and physical exhaustion) among hip hop dancers. Such work should increase our understanding of the optimal psychological environment that may serve to promote, as opposed to undermine, healthful participation in hip hop. The mediating role of need satisfaction in the relationship between the perceived motivational climate and dancers' psychological and emotional health will also be explored. In accordance with previous research, we hypothesized that need satisfaction and positive affect would be positively predicted by perceptions of the task-involving features of the hip hop environment. Perceptions of ego-involving aspects of hip hop settings were expected to negatively predict these variables. Emotional and physical exhaustion and negative affect were hypothesized to be negatively predicted by need satisfaction and perceptions of task-involving features, and positively predicted by perceptions of the ego-involving aspects of the hip hop climate. As proposed by SDT,[7] we expected satisfaction of the basic needs to mediate the relationship between perceptions of motivational climate operating in the hip hop companies and the indicators of well- and ill-being targeted in this study.

Methods

Participants

A total of 59 hip hop dancers (21 male, Mean age: 20.05 years, SD: 3.29; 38 female, Mean age: 20.29 years, SD: 2.99) recruited from hip hop companies within the UK participated in this study. Dancers reported spending on average 16.72 (SD: 12.34) hours dancing per week.

Procedure

This study was approved by a departmental ethics board at a large university in the UK. Prior to their agreement to participate, the hip hop company leaders were contacted and all participants were provided with an information sheet that explained the purpose of the study. They then completed a multi-section questionnaire. This was done immediately after a class in the presence of a research assistant, or participants took the questionnaires away to complete and returned them to the research assistant the following week. Participants were given instructions on how to complete the questionnaires, asked to be as honest as possible in their responses, assured that there were no right or wrong answers, and informed that their answers would remain confidential. The questionnaire took approximately 30 minutes to complete.

Measures

Perceptions of the Motivational Climate

Dancers' perceptions of the motivational climate in hip hop were measured using an adapted version of the 33-item Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2).[40] The wording of the questionnaire was slightly altered to suit the dance environment. When responding, dancers were requested to think of the typical atmosphere manifested "in this dance school/company." Examples of items comprising the task climate scales include "trying hard is rewarded in rehearsals and performances" and "the dancers really 'work together' as a team when it comes to performances." Examples of items assessing a perceived ego climate include "only the top dancers 'get noticed' by the teachers" and "the teachers make it clear who they think are the best dancers." The dancers were asked to indicate the extent to which they agreed with each statement on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Only the higher order factors measured by the PMCSQ-2 were analyzed. The factorial validity and reliability of the PMSCQ-2 has been supported in a number of studies conducted in sport and other physical activities.[40]

Basic Needs

Dancers were instructed to specifically consider the statements addressing need satisfaction in terms of their experiences "as a dancer in this school or company." To assess satisfaction of the need for competence, the 5-item perceived competence subscale of the Intrinsic Motivation Inventory[41] was employed. Dancers were asked to respond to each item (e.g., "after practicing a particular routine/movement for a while, I feel pretty competent") on a scale of 1 (strongly disagree) to 7 (strongly agree). The reliability of this scale has been tested and supported in work with athletes of a similar age to the dancers in this study.[42] The 5-item acceptance subscale of the Need for Relatedness Scale[43] was used to assess satisfaction of the need for relatedness. The stem "In this dance school I feel…" was followed by items including "safe," "valued," and "supported." Dancers responded on a scale of 1 (strongly disagree) to 5 (strongly agree). This scale has demonstrated acceptable reliability in research conducted in sport and physical education.[22] Three items were used to assess autonomy.[44] These items tap the degree to which

the dancer feels he has an internal perceived locus of control in regard to his dance engagement. Dancers responded to the stem "In this dance school/company I feel…" on a scale from 1 (not at all) to 5 (very much) to items such as "that my choices are based on my true interests and values." The reliability of this scale has been supported in research involving athletes.[25]

Well-being and Ill-being Indicators

The 20-item Positive and Negative Affect Scale (PANAS)[45] was employed to assess the degree to which the dancers were experiencing positive affect (e.g., "enthusiastic") and negative affect (e.g., "afraid"). Dancers were asked to consider the items in terms of whether they "generally feel" this way. Items were rated on a Likert scale ranging from 1 (not at all) to 5 (extremely). This scale has been validated in previous studies in the physical domain.[46] Dancers' level of emotional and physical exhaustion was assessed using the 5-item emotional and physical exhaustion scale from the Athlete Burnout Questionnaire.[47] Dancers responded to items including "I feel physically worn out from dance" and "I am exhausted by the mental and physical demands of dance" on a scale of 1 to 5, ranging from "almost never" to "almost always." The psychometric attributes of this scale have been supported in a number of studies conducted in sport-related settings.[34,48]

Results

Descriptive Statistics and Internal Reliability

Data screening resulted in the identification and subsequent removal of two univariate outliers from the dataset. Means, standard deviations, and alpha coefficients for the study variables are provided in Table 1. The observed alpha coefficients indicated that the scales used in the study demonstrated acceptable internal reliability (i.e., $\alpha \geq 0.7$[49]), except in the case of autonomy ($\alpha = 0.5$). This scale was comprised of only three items, and it is recognized that alpha coefficients can become inflated with increased numbers of items.[50] Therefore, given the low number of items in this scale and the exploratory nature of its use with this population, it was retained within the study. On average, the dancers perceived the learning environment in hip hop companies as more task- than ego-involving, reported moderate need satisfaction and emotional and physical exhaustion, and experienced greater positive affect than negative affect.

Correlations Between Variables

Pearson's product moment correlation analysis (Table 2) indicated perceptions of the task- and ego-involving climates to be negatively related. This is in accordance with research in the sport domain.[40] Perceptions of the task-involving features of the hip hop environment correlated positively with satisfaction of the needs for autonomy, competence, and relatedness. Perceptions of an ego-involving climate were negatively and moderately associated with autonomy and relatedness. Hip hop dancers' experiences of emotional and physical exhaustion and negative affect were positively related to perceptions of an ego-involving climate. Positive affect and negative affect were positively and negatively (respectively) associated with perceptions of a task-involving climate and satisfaction of the needs for autonomy, competence, and relat-

Table 1 Descriptive Statistics and Internal Reliability of Each Measure

	Min	Max	Mean	S.D.	α
1. Task climate	2.82	4.94	4.25	0.58	.91
2. Ego climate	1.13	4.69	2.92	0.85	.93
3. Autonomy	2.00	5.00	3.32	0.71	.50
4. Competence	2.80	6.80	5.10	0.94	.76
5. Relatedness	2.00	5.00	3.92	0.85	.90
6. Emotional/physical exhaustion	1.00	5.00	2.72	1.16	.95
7. Positive affect	2.70	5.00	4.10	0.60	.85
8. Negative affect	1.00	4.00	2.19	0.74	.88

Table 2 Bivariate Correlations Among the Study Variables

	1	2	3	4	5	6	7
1. Task climate							
2. Ego climate	-.39†						
3. Autonomy	.46†	-.38†					
4. Competence	*.33**	-.06	.18				
5. Relatedness	.59†	-.51†	.42†	.41†			
6. Emotional/physical exhaustion	-.22	.38†	-.21	-.14	-.33*		
7. Positive affect	.48†	-.33*	.30*	.43†	.40†	-.11	
8. Negative affect	-.47†	.37*	-.32*	-.48†	-.57†	.34*	-.44†

*Significant at the 0.05 level; †Significant at the 0.01 level.

edness. The need for relatedness was negatively associated with emotional and physical exhaustion. There were low to moderate correlations between the three needs.

Modes of Data Collection

Independent t tests were run to determine whether there was a significant difference in any of the measured variables as a function of mode of data collection (i.e., with or without the research assistant present). Results indicated that dancers who completed the questionnaires independently reported significantly higher perceptions of the ego-involving features of the hip hop climate ($p = .02$) and less emotional and physical exhaustion ($p = .02$). Therefore, mode of data collection was entered into the first step of the subsequent regression analyses in order to control for any potential effect on the overall results. There were no significant differences between males and females in any of the targeted variables in this study ($p > .05$).

The Perceived Motivational Climate and Need Satisfaction

Standard multiple regression analyses indicated that when perceptions of the task- and ego-involving aspects of the hip hop climate were entered simultaneously into the equation they accounted for 41% of the variance in relatedness. The independent contributions of perceptions of an ego-involving climate ($\beta = -.31$, $p = .01$) and perceptions of a task-involving climate ($\beta = .46$, $p = .00$) were both significant. Twenty-four percent of the variance in dancers' reported autonomy was accounted for by perceptions of task- and ego-involving features of the hip hop environment. The effect of perceptions of task-involving features was significant ($\beta = .37$, $p = .01$), but perceptions of an ego-involving climate did not significantly predict autonomy need satisfaction ($\beta = -.22$, $p = .13$). Perceptions of the motivational climate accounted for 11% of the variance in perceived competence. Perceptions of task-involving features of the hip hop environment significantly and positively predicted competence ($\beta = .36$, $p = .02$), but perceptions of an ego-involving climate did not emerge as a significant predictor ($\beta = .06$, $p = .69$).

Prediction of Indices of Well- and Ill-being

A series of hierarchical multiple regressions was conducted to test the hypotheses that positive affect, negative affect, and emotional and physical exhaustion could be predicted by perceptions of the motivational climate and need satisfaction (Table 3). Hair and colleages recommend a participant-to-variable ratio of 5:1.[50] There were five independent variables in the analysis and 59 participants in the study; therefore this ratio was

Table 3 Hierarchical Multiple Regression Analyses for Prediction of Outcome Variables

		β	*T*	R^2 change	F change
Positive Affect					
Step 1	Mode of data collection	.28	1.99	.08	3.95
Step 2	Task climate	.43	3.18†	.22	7.16†
	Ego climate	-.09	-.63		
Step 3	Task climate	.32	2.02	.10	2.40
	Ego climate	-.12	-.80		
	Competence	.35	2.57*		
	Autonomy	.04	.26		
	Relatedness	-.05	-.28		
Negative Affect					
Step 1	Mode of data collection	-.28	-1.97	.08	3.88
Step 2	Task climate	-.40	-2.87†	.22	6.84†
	Ego climate	.15	1.03		
Step 3	Task climate	-.16	-1.07	.17	4.31*
	Ego climate	.09	.63		
	Competence	-.33	-2.55*		
	Autonomy	-.02	-.17		
	Relatedness	-.24	-1.44		
Emotional and Physical Exhaustion					
Step 1	Mode of data collection	-.31	-2.33*	.10	5.41*
Step 2	Task climate	-.10	-.72	.10	2.88
	Ego climate	.27	1.83		
Step 3	Task climate	-.01	-.08	.02	.34
	Ego climate	.24	1.42		
	Competence	-.08	-.51		
	Autonomy	-.02	-.11		
	Relatedness	-.12	-.61		

*Significant at the 0.05 level; †Significant at the 0.01 level.

considered appropriate. Perceptions of the task-involving facets of the climate significantly and positively predicted positive affect ($p < .01$) and significantly and negatively predicted negative affect ($p < .01$). Contrary to our hypotheses, the perceived ego-involving features of the climate did not significantly predict any of the indicators of well- and ill-being. Satisfaction of the need for competence was found to be a significant predictor of positive affect and negative affect ($p < .05$).

Mediation Analysis

Baron and Kenny recommended a three step procedure that can be employed to test for mediation.[51] Their method has been developed to enable multiple mediators to be tested in one analysis, with confounding variables controlled.[52] By analyzing all mediators simultaneously there is a reduction in the likelihood of parameter bias caused by omitting other potential mediators from the analysis. In line with the Baron and Kenny approach, the multiple mediation method applies a set of three regression equations. This process was employed to test the mediating role of the three needs with respect to the relationship of perceptions of task- and ego-involving climates to positive affect, negative affect, and emotional and physical exhaustion.

The three needs were firstly regressed onto the independent variable. Secondly, the dependent variable was regressed on the independent variable. Finally, the dependent variable was simultaneously regressed onto the mediators and the independent variable. For one of the basic needs to be considered a significant mediator the following outcomes should be evident:

1. There should be a significant relationship between the independent variable and the need variable in equation one;
2. The independent variable should significantly predict the dependent variable;
3. The mediator should significantly predict the dependent variable after the independent variable and the other mediators' influence have been taken into account; and
4. The effect of the independent variable in equation three (i.e., when the effect of the mediators is accounted for) should be reduced from that in equation two.

Perceptions of an ego-involving climate did not significantly predict autonomy, perceived competence, or any of the targeted outcome variables ($p > .05$). Perceptions of an ego-involving climate were significantly related to satisfaction of the need for relatedness ($p < .05$), but relatedness did not significantly predict any of the dependent variables. Therefore, the mediating role of needs with respect to perceived ego-involving environments in hip hop and dancers' health could not be examined. Perceptions of a task-involving climate significantly predicted autonomy ($p < .05$), competence ($p < .05$), and relatedness ($p < .001$), as well as positive affect ($p < .01$) and negative affect ($p < .05$). Competence was the only need to emerge as a significant predictor of positive ($p < .05$) and negative affect ($p < .05$). Therefore, only the mediating role of competence could be considered (Fig. 1). The direct effect of perceptions of task-involving climates on negative affect ($\beta = -.36$, $p = .01$) reduced and became statistically insignificant with the inclusion of the mediators in the equation ($\beta = -.12$, $p = .45$). In the case of positive affect, when the three needs were also included in the regression the direct effect of perceptions of task-involving climates ($\beta = .41$, $p < .01$) reduced and became statistically insignificant ($\beta = .28$, $p = .08$). In both analyses competence remained a significant predictor of affective states despite the inclusion of the other mediators in the equation. These findings suggest that the relationship between perceptions of the task- and ego-involving features of the hip hop climate and dancers' reporting of positive and negative affect are fully mediated by satisfaction of the need for competence.

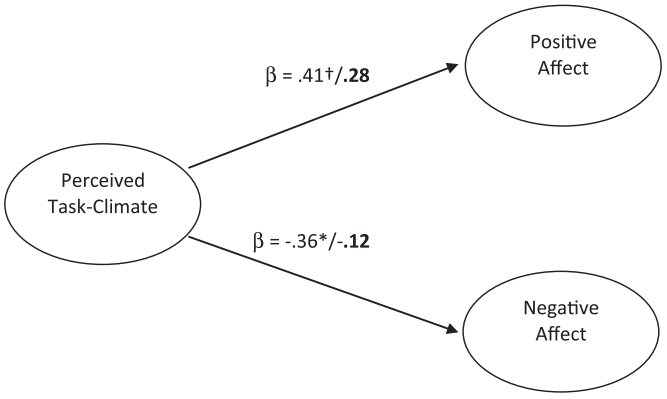

Figure 1 Standardized beta co-efficients indicating the relationships between perceptions of task-involving climates in hip hop and positive affect and negative affect (* = $p < .05$, † = $p < .01$). (While they are not represented graphically, confounding variables were controlled during these analyses. Bold denotes the coefficient when the mediators were controlled for.)

Discussion

Grounded in the basic needs theory[6,9] embedded in the self-determination theory framework,[7] the aims of this study were to determine whether perceptions of the motivational climate in hip hop dance settings corresponded to variability in need satisfaction. We also examined whether need satisfaction was associated with the degree of emotional and physical exhaustion, positive affect, and negative affect reported by the dancers. The mediating role of need satisfaction, in terms of the expected interplay between perceptions of the motivational climate and targeted indices of well- or ill-being, was also tested. Findings

provided partial support for the hypothesized relationships put forward by SDT and BNT.

Perceptions of Motivational Climate

In agreement with our hypotheses, perceptions of the task-involving features of the hip hop climate were found to positively predict satisfaction of the need for competence. According to achievement goal theory,[53] task climates are characterized by features associated with the promotion of feelings of personal mastery, such as the encouragement of individual effort and an emphasis on the use of self-referenced standards to judge improvement. This type of environment is likely to enhance learning and progress,[26,53] even when difficulties or setbacks are experienced. When dancers participate in a task-involving atmosphere their opportunities for mastery experiences are increased, and therefore competence is more likely to be reinforced. Our findings are consonant with previous research in classroom settings,[26] sport,[17,54] and physical education,[1,42] which supports a positive relationship between perceptions of a task-involving motivational climate and perceptions of competence.

Satisfaction of the need for autonomy was also positively predicted by perceptions of the task-involving features of the motivational climate. Duda contends that task-involving climates can support autonomy, as the use of self-referenced criteria to judge one's performance and progress (which is emphasized in such environments) is more controllable than normative indicators of accomplishment.[28] Opportunities for cooperative learning and the promotion of choice are also endemic to task-involving environments,[40] and these features may have contributed to a sense of autonomy among the dancers.

Of the three needs, perceptions of a task-involving climate were most strongly associated with satisfaction of the need for relatedness. The encouragement of collaborative approaches to learning and performance and the sense that everyone makes a contribution to the "team" effort, which have been found to be characteristics of task-involving settings,[40] may have contributed to this heightened sense of belongingness among the dancers.

On the other hand, and in accordance with our expectations, the perceived ego-involving features of the hip hop climate were found to negatively predict satisfaction of the need for relatedness. Past work has indicated that inter-individual rivalry and social comparison processes are emphasized in ego-involving environments.[40] It makes sense that these features of an ego-involving climate would contribute to a diminished sense of belongingness.[26,42] The focus on competition and other-referenced criteria for success may have led dancers to perceive their fellow dancers as rivals rather than comrades. Indeed, past studies have found perceived ego-involving environments to correspond to lower levels of cohesion in sport teams.[55] Moreover, previous research has revealed perceptions of an ego-involving climate in sport to be associated with thwarting of the need for relatedness, and this compromised need satisfaction has predicted drop out from the athletic setting in question.[18]

Contrary to our theory-driven hypotheses that perceptions of an ego-involving climate would undermine autonomy and competence (but consonant with previous research in the physical domain[18,22,25]), no significant relationships were found. It should be noted that, via simple correlations, perceptions of an ego-involving climate negatively and significantly correlated with autonomy. Perceptions of an ego-involving climate were also found to be positively associated with emotional and physical exhaustion and negative affect, and negatively related to positive affect. Perceptions of task- and ego-involving climates were significantly and negatively correlated, suggesting a level of interdependence between perceptions of these features of the motivational climate.[40] It is therefore possible that it is this shared variance as well as independent aspects of task-involving climates that are relevant to the satisfaction of the need for autonomy and competence. In further explicating these findings, achievement goal theory proposes that competence mediates the relationship between perceptions of ego-involving environmental features and resultant cognitive, behavioral, and affective outcomes.[53] Research has suggested that there is a positive association between perceptions of an ego-involving climate and the degree of ego-orientation reported among dancers.[35] Therefore, ego-involving environmental cues in the dance milieu may increase the likelihood of dancers focusing on normative criteria in evaluating their competence. Judgments of high competence are likely to be vulnerable, as the "yard-stick" against which dancers assess whether or not they are good is out of their control. Therefore an ego-involving climate should be particularly problematic among dancers who are less skilled or have doubts about their ability. On the other hand, an ego-involving environment may be amenable to perceptions of high competence in dancers who are among the best in the dance troupe and are being recruited for the lead roles (i.e., they are receiving competence reinforcing feedback). This complex interaction between ego-involving climates and perceptions of competence may account for the equivocal associations between perceptions of an ego-involving environment and satisfaction of the need for competence in the present work.

Need Satisfaction and Well-being Outcomes

A central tenet of BNT[6] is that autonomy, competence, and relatedness are innate psychological needs that, when satisfied, lead to eudaimonic well-being. This premise has been supported in previous work in the educational domain[56] and sport settings.[17] In this study, satisfaction of the need for competence emerged as the only need to significantly predict positive and negative affect (positively and negatively, respectively). Consonant with BNT, satisfaction of the need for

competence was also expected to play a mediating role between perceptions of task-involving climates and the reported affective states experienced by hip hop dancers. The three basic needs were not significantly related to the hip hop dancers' reported emotional and physical exhaustion.

The finding that competence was a strong and positive predictor of positive affect was in accordance with previous sport research.[17] This result is also consistent with past work in physical education settings in which competence need satisfaction emerged as the strongest predictor of self-determined motivation.[22,42,57] According to Deci and Ryan's SDT,[6] although they are of essential importance, the salience of each of the basic needs is likely to be dependent on the setting in which an individual is operating. In a dance context, where one's ability is frequently on public display, the functional significance of competence is likely to be higher than that of the needs for autonomy and relatedness. If a dancer places high value on his dance participation, then it is likely that feeling competent will lead him to experience more joy and pleasure when performing, and thereby enhance the occurrence of positive affective states.

Low perceived competence corresponded to heightened negative affect in the present sample of hip hop dancers. A perceived lack of competence may lead to the perception of hip hop training and performances as more demanding and threatening. When greater demand and threat are discernable, we would expect exacerbated reports of negative affective states among dancers. The findings of this study support this possibility, though the suggested mechanisms by which satisfaction or thwarting of the needs impacts affective responses requires further investigation.

In contrast to our hypotheses and the premise of BNT,[9] satisfaction of the need for autonomy or relatedness did not significantly predict any of the indicators of ill- or well-being targeted in this study. Deci and Ryan[6] have suggested the need for autonomy to be more fundamental than competence and relatedness in the promotion of intrinsic behavior regulations and resultant well-being. However, the results of this study suggest that level of autonomy is not crucial to the experiences of positive and negative affect, as well as emotional and physical exhaustion, among hip hop dancers.

Affective states can be considered to be relatively stable. However, when assessing indices of psychological and emotional welfare at a specific point in time, reported well-being may reflect temporal comparisons underpinned by recent events rather than one's present state relevant to baseline well-being.[58] For example, a dancer may experience a competence-reinforcing event (e.g., obtain a part that he has been waiting for, or receive a compliment from the artistic director following a performance) that could induce positive affective states. Perhaps in a cross-sectional study competence satisfaction alone may be pertinent to current feelings of positive and negative affect. However, these associations may be fleeting and unlikely to be a perpetual reflection of optimal functioning, unless the need for autonomy is also quenched on a long-term basis.[6] Therefore, employing a longitudinal research design over a dance season (e.g., assessments taken at the beginning, mid-, and post-season) or the diary study approach, which also considers daily fluctuations in these variables,[21,58] may be fruitful in further explaining the relevance of the different basic needs to the degree of well- and ill-being experienced by hip hop dancers.

The reported degree of emotional and physical exhaustion experienced by the hip hop dancers was not predicted by the dimensions of the motivational climate targeted nor via satisfaction of the basic needs. This was unexpected, as previous sport research has found emotional and physical exhaustion to be more pronounced among athletes operating in climates marked by ego-involving characteristics.[34] It is possible that other aspects of the environment or psychological processes not considered in this study may have contributed to the degree of emotional and physical exhaustion experienced by these dancers. For example, perceptions of threat and challenge and associated experiences of anxiety represent alternative processes that could be associated with the dancers' experience of exhaustion. Consistent exposure to stress has been associated with athlete burnout, to which emotional and physical exhaustion is considered a key contributor.[47] Other environmental factors, such as perceptions of social support and autonomy support within the dance setting, could account for the dancers' perceptions of depleted emotional and physical energy. It may also have been the case that the physical demands and objective workload requirements of hip hop dance contributed to experiences of exhaustion. These dancers typically completed the questionnaires at around 9:00 pm, after a full day of work or study at college or university and several hours of dance training. Consistent with this argument, the hip hop dancers who completed their questionnaires later in the evening reported significantly lower levels of exhaustion than those who responded immediately following their class. Therefore it might be the case that the time of data collection was a contributor to the level of emotional and physical exhaustion reported (despite the fact that this was not a state measure). Future research should consider more objective measures of optimal functioning and health. Taken in conjunction with self-reported measures, this may be more informative as to whether exhaustion experienced is indeed a function of need thwarting, and subsequently likely to compromise dancers' well-being in the long run. It is also possible that the lack of association between the needs and emotional and physical exhaustion in this study was due to methodological approaches. It may be that daily rather than overall measures of need satisfaction would be more sensitive

to indicators of ill-being such as emotional and physical fatigue.[58]

Besides being a reason for caution regarding the generalizability of the present findings to all hip hop dancers, the size of the sample obtained in this study limited the level of sophistication that could be applied in the data analysis. Future research, employing larger sample sizes and more advanced analytic techniques (such as structural equation modeling, which takes into account measurement error, or hierarchical linear modeling, which considers group- and individual-level effects on motivation and well-being) would be beneficial to the further testing of the SDT framework[7] in dance settings.

Conclusion

This study provides some preliminary evidence of the applicability of basic needs theory[6] and self-determination theory[7] to the dance population. Findings indicate that the motivational climate in hip hop dance settings holds implications for the well-being of dancers. It can tentatively be suggested that the development of a more task-involving climate, and the ensuing support of perceived competence in dance settings, may encourage positive affective states and reduce negative affective states among hip hop dancers.

Teachers of hip hop are in a prime position to maximize the task-involving features of the teaching and performance-related environments they create for their dancers. For example, dance teachers could do more to reward effort and personal and collective improvement in class, encourage cooperative learning, recognize the importance and contributions of every dancer, and respond to mistakes with informational feedback rather than punitive comments.

The findings of this study require replication in other dance genres, and methodological extension including the incorporation of longitudinal designs. Such developments would provide greater insight into how we can create environments that optimize the dance experience and advance rather than diminish the welfare of all dancers.

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