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SELF-EFFICACY, CHALLENGE, THREAT AND MOTIVATION IN VIRTUAL AND BLENDED COURSES ON MULTICULTURAL CAMPUSES

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ABSTRACT

Aim/Purpose	The aim of this study was to examine the sense of challenge and threat, negative feelings, self-efficacy, and motivation among students in a virtual and a blended course on multicultural campuses and to see how to afford every student an equal opportunity to succeed in academic studies.
Background	Most academic campuses in Israel are multicultural, with a diverse student body. The campuses strive to provide students from all sectors, regardless of nationality, religion, etc., the possibility of enjoying academic studies and completing them successfully.
Methodology	This is a mixed-method study with a sample of 484 students belonging to three sectors: general Jewish, ultra-orthodox Jewish, and Arab.
Contribution	This study's findings might help faculty on multicultural campuses to advance all students and enable them equal opportunity to succeed in academic studies.
Findings	Significant sectorial differences were found for the sense of challenge and threat, negative feelings, and motivation. We found that the sense of challenge and level of motivation among Arab students was higher than among the ultra-orthodox Jewish students, which, in turn, was higher than among the general Jewish student population. On the other hand, we found that the perception of threat and negative feelings among Arab students were higher than for the other two sectors for both the virtual and the blended course.

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Recommendations for Practitioners	Significant feedback might lessen the sense of threat and the negative feelings and be a meaningful factor for the students to persevere in the course. Intellectual, emotional, and differential feedback is recommended. Not relating to students' difficulties might lead to a sense of alienation, a lack of belonging, or inability to cope with the tasks at hand and dropout from the course, or even from studies altogether. A good interaction between lecturer and student can change any sense of incompetence or helplessness to one of self-efficacy and the ability to interact with one's surroundings.
Recommendations for Researchers	Lecturers can reduce the sense of threat and negative feelings and increase a student's motivation by making their presence felt on the course website, using the forums to manage discussions with students, and enabling and encouraging discussion among the students.
Impact on Society	The integration of virtual learning environments into the learning process might lead to the fulfilment of an educational vision in which autonomous learners realize their personal potential. Hence they must be given tasks requiring the application of high learning skills without compromise, but rather with differential treatment of students in order to reduce negative feelings and the sense of threat, and to reduce the transactional distance.
Future Research	Further studies should examine the causes of negative feelings among students participating in virtual and blended courses on multicultural campuses and how these feelings can be handled.
Keywords	multiculturalism, threat, challenge, motivation, virtual course, blended course, transactional distance

RESEARCH REVIEW

Most academic campuses in Israel are multicultural and have a diverse student body. The campuses wish to give students from every sector, nationality, religion, etc., a chance at enjoying academic studies and graduating successfully.

In 2010 the Budget Planning and Allocation Committee of the Council for Higher Education and the Finance Ministry came up with a plan for making academic studies accessible to minorities and to ultra-orthodox Jews. Academic studies are a first-rate method for achieving social mobility and a key component of the growth and development of every sector, as well as of the country's economy as a whole (Knesset Research and Information Center, 2014; Malchi, Cohen, & Kaufman, 2008; Shaviv, Binstein, Stone, & Podam, 2013).

The goal of this research was to examine the sense of challenge and threat, negative feelings, self-efficacy, and motivation among students attending a virtual and a blended course on multicultural campuses and to see how one may afford each and every student an equal chance at academic success. The students belonged to three sectors: general Jewish, ultra-orthodox Jewish, and Arab. 'Ultra-orthodox' refers to a stream in Orthodox Judaism characterized by the following of biblical commandments and cultural conservatism. In order to enable this population equality of opportunity in Israeli society, special programs have been created to cater to their culture, such as separate study groups for males and females.

Integrating virtual and blended learning environments can lead to the fulfillment of an educational vision that supports students and is attentive to their needs. In this study we examined critical factors that influence the learning and teaching process, namely, self-efficacy, threat and challenge, motivation, and a feeling of 'transactional distance', which reflect what students have to cope with during

the learning process, along with their satisfaction and perseverance (Moore, 1993; Zilka & Zeichner, 2017).

Learning Environments

Following Piaget, Papert, and others, the constructivist method, which sees learning as 'structuring,' has gained momentum. Its premise is that how we see the world is not necessarily the objective reality, but rather a subjective reality that depends on each person's ways of understanding and perception (Fraundorf, 1995; Perkins, 1993; Toomey & Ketterer, 1995; Zilka, 2014).

In the study we examined two learning environments, one virtual and the other blended. The term 'blended' refers to a combination of face-to-face and online learning. Students meet face-to-face on a regular basis, the course has an active website, discussions take place on the course forum as well as face-to-face, etc. This combination can enrich the relationship between the teachers and learners within the learning community. Face-to-face meetings enable instant, unmediated interaction based on verbal and nonverbal communication such as facial expressions and body language. Interactions like these help the teacher facilitate meaningful interactions and identify situations requiring a response to "signals" of distress, embarrassment or difficulty concerning the material being taught, or the class fabric, etc. (Anderson, Rourke, Garrison, & Archer, 2001; Garrison, Anderson, & Archer, 2001; Garrison & Kanuke, 2004; Groen & Li, 2005; Zeichner & Zilka, 2016).

Virtual learning is a digital teaching system that connects teachers and students who are physically separate from each other. Virtual environments allow students to enhance the learning process and usually provide a broad base for learning through research, merging visual, auditory, and verbal texts, and integrating higher-order thinking tasks, etc. Because of the dynamism and the variety of possibilities it offers, a learning environment develops that, in turn, offers an opportunity to deal with interpersonal communication skills, supports collaboration and sharing of space (Cole, Shelley, & Swartz, 2014; Mbati & Minnaar, 2015). Nevertheless, a physical distance between students and teachers may cause 'transactional distance'. This concept, coined by Moore (1993), is a psychological-communicative gap which can crop up between the teachers and their students during the learning process, because of which students might feel threatened and angry and have misperceptions about themselves and about the learning process. According to Moore, this psychological-communicative gap is not a constant variable, but rather one that can be reduced.

Many studies (Anderson et al., 2001; Bransford, Brown, & Cocking, 2000; Chickering & Gamson, 2000; Garrison et al., 2001; Zeichner & Zilka, 2016; Zilka, Cohen, & Rahimi, 2018; Zilka & Zeichner, 2017) show that one of the most important factors in the success of the students' learning process and the teachers' teaching process is the "presence in teaching" in a virtual or a blended course. Researchers say that presence in teaching in virtual and blended courses is critical for students. It is defined as meaningful communication to shape, assist, and guide cognitive and social processes for meaningful personal and academic fulfillment, enhancing students' contributions, encouraging a cooperative climate, encouraging social and community cohesion, public dialogue, using the forum and chat for discourse with and among students and for personal conversations between individual students and the lecturer (Deschacht & Goeman, 2015; McCutcheon, Lohan, Traynor, & Martin, 2015; Sarıtepeci & Çakır, 2015; Vo, Zhu, & Diep, 2017).

Perception of the Situation: A Sense of Threat or Challenge

According to Lazarus (2000), when people encounter the environment, they might perceive it as either positive or stressful. This cognitive process is influenced by three groups of factors:

1. The characteristics of the situation: the degree of familiarity or ambiguity of the situation.
2. Variables pertaining to social norms: demands, values and customs.
3. Variables pertaining to an individual's personality: pessimistic or optimistic, having high or low self-confidence, having high or low intelligence, aspiring to success or tending to avoid failure.

A positive situation would be one that incentivizes people to act; whereas a stressful situation may cause people to feel challenged and threatened. When people feel threatened, feelings of uncertainty and lack of self-efficacy become stronger. They are likely to stop performing tasks and start defending themselves and maintaining what already exists, executing assignments poorly, and so forth. However, a sense of togetherness may decrease the sense of threat and reduce non-adaptive reactions. Lazarus (2000) states that various researchers say that different people experience different degrees of stress given the same challenge. Researchers (Brown, Hughes, Keppell, Hard, & Smith, 2015; Zilka & Zeichner, 2017) write that virtual environments are emotionally charged. Students report feeling frustration, anger, rage, happiness, enthusiasm, satisfaction, boredom, jealousy, hate, love, and affection when they relate how they feel about learning in this environment. The virtual learning environment sometimes entails an overwhelming level of demands which is likely to arouse emotions that may then influence learners' attitudes, behavior or reactions.

The Perception of Self-efficacy

Scholars such as Bandura (1986, 1988, 1989) and Schunk (1983, 1984, 1989a, 1989b) define self-efficacy as people's judgement of their ability to organize and perform certain tasks or actions. These scholars write that self-efficacy influences students' choice of activities, effort, and perseverance. Those who feel they possess self-efficacy will invest more effort and will persevere more than those who doubt their abilities. Self-efficacy stems from prior experience, from receiving feedback, and from physiological stimulation. If students believe they are capable of performing a given task, their feeling of self-efficacy will increase, but if not, it will decrease.

Schunk (1989a, 1989b) emphasized that the learners obtain information about their abilities also by comparison with others. The encounter in a face-to-face lesson exposes the learner to others. Watching fellow learners may arouse a sense that one can handle tasks, or alternatively, cause one to question the ability to cope with tasks. The teacher's feedback also affects the learner's perception, and may reinforce either the learner's sense of ability to cope with the task or that of helplessness. Learning in a virtual or blended environment allows the learner to deal with tasks in a protected environment, where he is comfortable, and at a convenient time. The learner can observe the products of others, the teacher's assessment of the products of others, etc. But the "transactional distance" that provides a more protected environment to the learner, at times may weaken learners who need face-to-face interactions because their observing the learning process of others reinforces their sense that they are also capable of coping with the task.

In summation, the aim of this study was to examine the sense of challenge and threat, as well as self-efficacy and motivation among students studying in virtual and blended learning environments on multicultural college campuses and to see how to give every student an equal opportunity to succeed in their academic studies.

METHOD

This is a mixed-method study. Participants completed a 'challenge/threat' questionnaire containing open-ended and multiple choice questions, a motivation questionnaire, a self-efficacy questionnaire and other open-ended questions. The sample consisted of 484 respondents from two academic institutions in Israel.

The study was both quantitative and a qualitative, based on triangulation to verify and validate findings. Winnowing and thick description are two common practices in this research method. In this study a great deal of winnowing was used to highlight the main findings. Winnowing allows one to focus on what is most important and present what is most meaningful and convincing (Ely, Vinz, Downing & Anzul, 1997; Wolcott, 2001)

The open-ended answers underwent content analysis, which is defined as a research technique to methodically extract valid and reliable conclusions from messages presented within any content in a par-

ticular context. Content analysis combines quantitative and qualitative techniques. In other words, reaching valid conclusions from within a given text, but at the same time mentioning important elements from the text itself that repeat themselves (Weber, 1990).

POPULATION

The sample consisted of 484 respondents from two academic institutions. Most of the respondents were women (70.2%). 30% of the respondents defined themselves as ultra-orthodox Jews, 36.6% defined themselves as Arabs (including Christians and Bedouin), and the rest as Jews in general (28.5%). 46% of the students were 20-30 years old, 33% were 30-40 years old, 21% were 40 years and older. 31% were in their first year, 36% in their second year, 19% in later years. Examination of the participants' study tracks shows that 38.4% were studying something related to education, teaching or social sciences. The rest of the participants were studying business management (31.2%) or organizational consulting.

RESEARCH TOOLS

Questionnaire about the perception of threat/challenge situations

A questionnaire about the perception of threat/challenge situations was derived from Lazarus and Folkman's questionnaire (1988). The questionnaire contains 13 statements such as the following: this situation makes you angry; this situation makes you nervous; this situation seems difficult to you; this situation threatens you; this situation will hurt you; this situation is worrying; this situation is reassuring.

The questionnaire focused on clarifying the causes of a sense of threat/ challenge. The categories found were promoting knowledge and understanding, acquiring management tools, mastering innovative technology and the course assignments; and outputs (what did I learn, what did I 'get' from the course?).

The students' perception of threat and challenge regarding the different courses was assessed using three indicators, as specified in Table 1. These indicators were measured using a 7-point scale in which 1 represented a low perception of threat and/or challenge, and 7 represented a high perception of threat and/or challenge. Reliability of the indices (Cronbach's α), ranged between 0.815 and 0.939, and thus indicating a high level of internal consistency within the various questionnaire items.

Table 1: The perception of threat and challenge in virtual and mixed courses – key dispersion indices, reliability (Cronbach's α) and correlation coefficients (Pearson)

Threat /challenge perception	Course type	*Dispersion indices*			Reliability (Cronbach's α)	Correlation coefficients (Pearson)	
		M		*SD*		Negative feelings	Sense of threat
Negative feelings	Virtual course	2.77	[1.00-7.00]	1.44	0.908		
Sense of threat		3.20	[1.00-7.00]	1.55	0.933	.839**	
Sense of challenge		4.40	[1.00-7.00]	1.41	0.828	-.168**	-.237**
Negative feelings	Blended course	2.47	[1.00-7.00]	1.35	0.939		
Sense of threat		2.79	[1.00-7.00]	1.40	0.939	.856**	
Sense of challenge		4.49	[1.00-7.00]	1.37	0.815	-0.039	-0.048

**p<.01 *,p<.05

Motivation questionnaire

A motivation questionnaire was derived from that of Pintrich, Smith, Garcia, and McKeachie (1991), containing 27 questions in a 7-point scale from 1 – 'completely untrue' to 7 – 'very true'. The questionnaire contained statements such as the following: in this type of course, I would rather be challenged by the material so that I can learn new things; what gratifies me most about this course is trying to understand the material in the most profound way possible; I am confident that I can understand even the most difficult parts of the reading material for this course.

The perception of motivation was assessed using three indices measured on a 7-point scale from 1 - 'completely untrue' to 7 - 'very true'. Reliability of the indices was assessed using Cronbach's α index. The reliability of the index for students' willingness to cope with challenges ranged between 0.893 and 0.913, and the reliability of the index for mastery of the material studied ranged between 0.902 and 0.922. These values indicate a high level of internal consistency in the items of both questionnaires (see Table 2).

The reliability of the index for curiosity about the material studied, assessed in reference to the blended course was α=0.574. This value is considered relatively low and it may testify to insufficient variance between the two items that served to assess this index.

Table 2: The perception of motivation in virtual and blended courses – key dispersion indices, reliability (Cronbach's α) and correlation coefficients (Pearson)

Motivation	Course type	*Dispersion indices*			Reliability (Cronbach's α)	Correlation coefficients (Pearson)	
		M		*SD*		Willingness to cope with challenges	Curiosity about material studied
Willingness to cope with challenges	Virtual course	5.15	[1.67-7.00]	1.05	0.893		
Curiosity about material studied		4.99	[1.00-7.00]	1.25	0.574	.766**	
Mastery of material studied		5.24	[2.00-7.00]	0.94	0.902	.813**	.642**
Willingness to cope with challenges	Blended course	5.45	[2.00-7.00]	0.99	0.913		
Curiosity about material studied		5.41	[1.50-7.00]	1.16	0.713	.827**	
Mastery of material studied		5.39	[2.00-7.00]	0.94	0.922	.851**	.714**

**p<.01 *,p<.05

Self-efficacy questionnaire

A self-efficacy questionnaire to measure the perception of self-efficacy in learning was developed, according to Bandura (1986). The questionnaire consists of eight statements on a 7-point scale from 1 - 'completely untrue' to 7 - 'very true'. The respondents were asked to grade the statements according to the answer that best described them. The questionnaire distinguished between three indices of self-efficacy in learning: academic, computer use (technology mastery), and social. The characteristics of self-efficacy perception are presented in Table 3. The last variable concerned the research participants' perception of self-efficacy. This variable was evaluated using a scale that ranged between 1

(low self-efficacy perception) and 6 (high self-efficacy perception). The reliability of this variable was α=0.907, indicating a high level of internal consistency in the items of this index.

Table 3: The students' perception of self-efficacy – key dispersion indices and reliability (Cronbach's α)

Research variable	*Dispersion indices*			Reliability (Cronbach's α)
	M		*SD*	
Self-efficacy	4.60	[1.75-6.00]	0.91	0.907

Open questions

The topics of the open questions were taken from the closed questionnaires. The questions were as follows: Do you consider computerization and ICT an integral part of your studies? Explain. What makes you feel challenged in a virtual course? What makes you feel challenged in a blended course? What makes you feel threatened in a virtual course? How did you respond to / act upon these feelings? What makes you feel negative about a virtual course?

Demographics

Nine questions were about the participant's personal and demographic status, age, gender, year of study, etc.

FINDINGS

BACKGROUND CHARACTERISTICS AND THE SENSE OF THREAT AND CHALLENGE

The results of the influence of the students' background characteristics on the perception of threat and challenge in the virtual and blended courses are presented in Table 4 and Figure 1 below.

Table 4: A comparison of the perception of threat and challenge in the virtual and blended courses in relation to background characteristics

Background characteristics		Virtual course						Blended course					
		Negative feelings		Sense of threat		Sense of challenge		Negative feelings		Sense of threat		Sense of challenge	
Gender	Male	2.64	t=1.073	2.89	t=2.807**	4.50	t=1.058	2.48	t=0.326	2.61	t=1.547	4.51	t=0.150
	Female	2.80		3.31		4.36		2.43		2.83		4.49	
Sector	Jewish ultra-orthodox	2.77	F=21.200**	3.28	F=24.61**	4.07	F=8.214**	2.26	F=24.836**	2.60	F=21.952**	4.51	F=2.757
	Arab, Druze, Bedouin	3.19		3.69		4.70		2.96		3.28		4.68	
	Jewish	2.18		2.51		4.38		2.00		2.31		4.31	

p<.05*, p<.01**

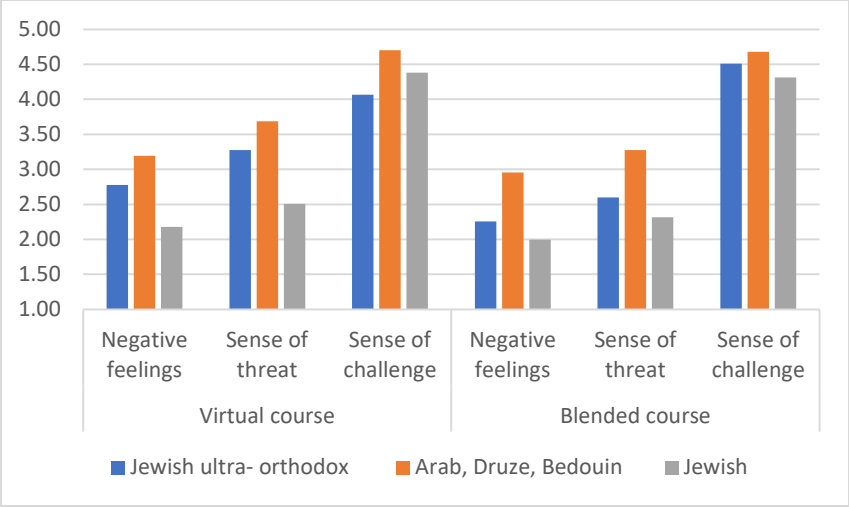

Figure 1: The perception of threat and challenge among students from different sectors in relation to virtual and blended courses

The data show that women feel a greater sense of threat (t=2.807, p<.01) regarding the virtual course (M=3.31) compared to men (M=2.89). No similar difference was found for the blended course.

The analysis of students' perception of threat and challenge in relation to their sector showed that negative feelings are highest among Arab students and lowest among Jews who are not ultra-orthodox. The findings are significant for negative feelings both in the virtual course (F=21.2, p<.01) and in the blended course (F=24.836, p<.01). Likewise, the analysis showed that the sense of threat is highest among Arab students and lowest among Jews who are not ultra-orthodox. In this instance too, the gaps between the three sectors are significant for the sense of threat both in the virtual course (F=24.61, p<.01) and in the blended course (F=21.952, p<.01).

An analysis to find differences in the sense of challenge showed that there is a sectorial difference in the virtual course (F=8.214, p<.01) stemming from the gap between the relatively high sense of challenge among Arab students and the relatively low sense of challenge among the ultra-orthodox Jewish students. In contrast, no sectorial gap was found regarding the sense of challenge for the blended course.

Background Characteristics and Students' Motivation

The results of the analysis of the influence of students' background characteristics on their motivation to study in the various courses are presented in Table 5 and Figure 2.

Table 5: Comparison of the students' sense of threat and challenge in blended and virtual courses in relation to background characteristics

Background characteristics		Virtual course						Blended course					
		Willingness to cope with challenges		Curiosity about material studied		Mastery of material studied		Willingness to cope with challenges		Curiosity about material studied		Mastery of material studied	
Gender	Male	5.18	t=0.463	5.20	t=2.320*	5.20	t=0.563	5.42	t=0.373	5.41	t=0.010	5.30	t=1.303
	Female	5.13		4.91		5.26		5.46		5.41		5.42	

Sector	Jewish ultra-orthodox	4.81		4.56		5.15		5.32		5.27		5.40					
	Arab, Druze, Bedouin	5.54	F=21.863**	5.44	F=21.37*	5.61	F=24.65*	5.69	F=8.393**	5.71	F=8.780**	5.66	F=17.49**				
	Jewish	5.05		4.96		4.91		5.28		5.22		5.04					

p<.05* ,p<.01**

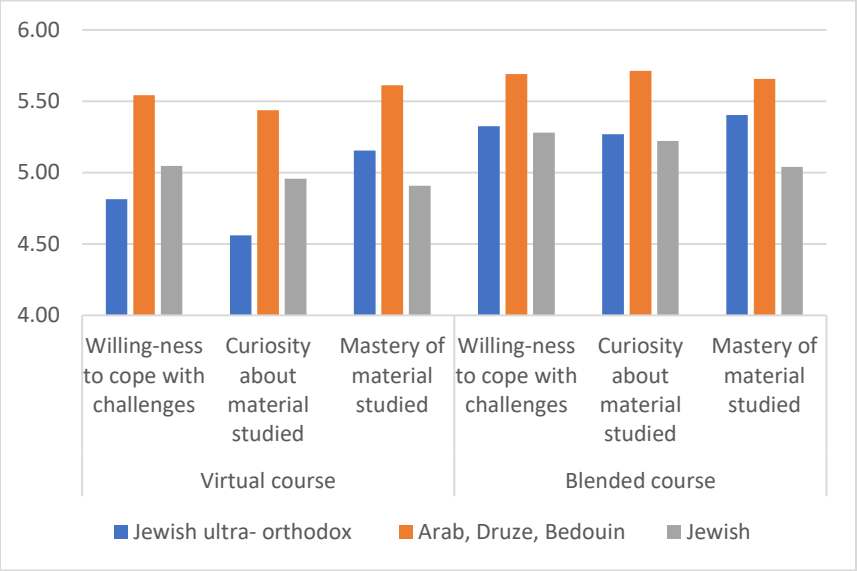

Figure 2: Level of motivation among students belonging to different sectors in relation to the virtual and the blended course.

Table 5 and Figure 2 show that the level of motivation among Arab students is higher than that of the students from the other two sectors also in the context of the blended course. These patterns are evident for the willingness to cope with challenges in the course (F=8.393, p<.01), for curiosity about the material studied (F=8.780, p<.01), and for mastery of the material studied (F=17.49, p<.01). Furthermore, the motivation for mastery of the material studied was found to be higher among ultra-orthodox Jews than among the other Jewish students.

Factors Affecting the Perception of Threat, Challenge and Motivation in a Virtual and in a Blended Course

In order to identify the factors affecting the perception of threat, challenge, and motivation of a virtual course, a linear regression analysis was conducted where the indices of the students' perceptions about the virtual course were used as the dependent variables while the independent variables were the students' background characteristics, their perception of threat and challenge about the blended course, their motivation regarding the blended course, and their perceived level of self-efficacy.

The analysis of factors affecting the sense of threat regarding the virtual course reveals that this perception is completely unaffected by the background characteristics of the respondents, apart from the fact that this threat is more acute among students in the Arab sector compared to Jewish students (b=.520, p<.05).

Table 6: Linear regression of the dimensions of the perception of threat, challenge and motivation in a virtual course on the background characteristics, the perception of threat, challenge and motivation in a blended course and the perception of self-efficacy

Explanatory variables		Perception of threat and challenge in a virtual course			Motivation in a virtual course		
		Negative feelings	Sense of threat	Sense of challenge	Willingness to cope with challenges	Curiosity about material studied	Mastery of material studied
Background characteristics	Transverse	2.543	2.630	0.770	0.547	1.165	0.397
	Men	-0.037	-0.263	0.255	0.059	0.274*	0.136*
	1st year of studies	-0.554**	-0.286	0.042	0.016	-0.034	-0.008
	3rd or more years of study	-0.207	-0.125	0.094	0.075	-0.156	-0.013
	Jewish ultra-orthodox	0.209	0.357	-0.153	-0.246*	-0.279	-0.056
	Arab	0.309	0.520*	-0.021	0.323*	0.250	0.172
	Age group	-0.037	-0.025	-0.085	-0.018	-0.072	-0.039
Perception of threat and challenge in a blended course	Negative feelings	0.724**	0.398**	-0.108	0.046	0.103	-0.123**
	Sense of threat	-0.045	0.283**	0.120	-0.101*	-0.125	0.126**
	Sense of challenge	0.070	0.092	0.565**	0.060*	0.062	0.043
Motivation in a blended course	Willingness to cope with challenges	-0.053	0.114	-0.006	0.482**	0.161	-0.035
	Curiosity about material studied	0.071	0.003	-0.103	-0.049	0.357**	-0.077
	Mastery of material studied	-0.142	-0.139	0.116	0.163*	0.016	0.785**
Self-efficacy		-0.222**	-0.344**	0.310**	0.283**	0.230**	0.202**
	F	29.174**	20.152**	15.050**	44.765**	17.431**	57.171**
	R^2	56.7%	47.5%	40.3%	66.8%	43.8%	72.0%

** p<.01 * ,p<.05

QUALITATIVE ANALYSIS

Tables 7 and 8 present the perception of challenge among the respondents in the virtual and the blended courses.

Table 7: Challenges in a virtual course – according to background statistics

Challenges in a virtual course	Total sampled	Gender		Sector		
		Male	Female	Ultra-ortho-dox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Interaction with lecturer	10%	7%	12%	14%	9%	9%
Social interaction	9%	4% [a]	11% [a]	6% [m]	7%	14% [m]
Acquisition of knowledge	26%	21%	27%	24%	36% [n]	20% [n]
Management tools	11%	12%	10%	6% [o]	14% [o]	13%
Technological skills	17%	16%	19%	17%	21%	15%
Encouraging and developing think-ing	23%	24%	22%	19%	25%	22%
Interest	3%	4%	2%	2%	3%	3%
Initiative	5%	7%	4%	6%	5%	4%
Self-learning	8%	16% [b]	5% [b]	13% [p]	3% [p]	9%
Lack of challenge	5%	6%	5%	6%	3%	7%

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

Table 8: Challenges in a blended course – according to background characteristics

Challenges in a blended course	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Interaction with lecturer	23%	21%	24%	28%	21%	21%
Social interaction	15%	9%[a]	17%[a]	14%	14%	16%
Acquisition of knowledge	15%	14%	16%	14%	20%	11%
Management tools	6%	6%	6%	7%	8%	2%
Technological skills	8%	10%	8%	5%	11%	10%
Encouraging and developing think-ing	24%	27%	22%	23%	27%	21%
Interest	2%	2%	3%	4%	2%	1%
Initiative	6%	7%	6%	4%	8%	6%
Self-learning	3%	6%	2%	4%	2%	4%
Lack of challenge	3%	2%	4%	3%	2%	6%

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

Tables 7 and 8 show that the social interaction in the blended course constitutes a more significant challenge for women (17%) than for men (9%). No differences were found for the perception of challenge constituting social interaction in a blended course in the context of the sector the students belonged to.

The Perception of Threat in the Virtual and Blended Courses

Table 9 and Figure 3 present the main attitudes expressed in the context of how the respondents perceive threat in a virtual or blended course. Analysis of the responses indicates the existence of 11 categories through which they related to threat in both types of course.

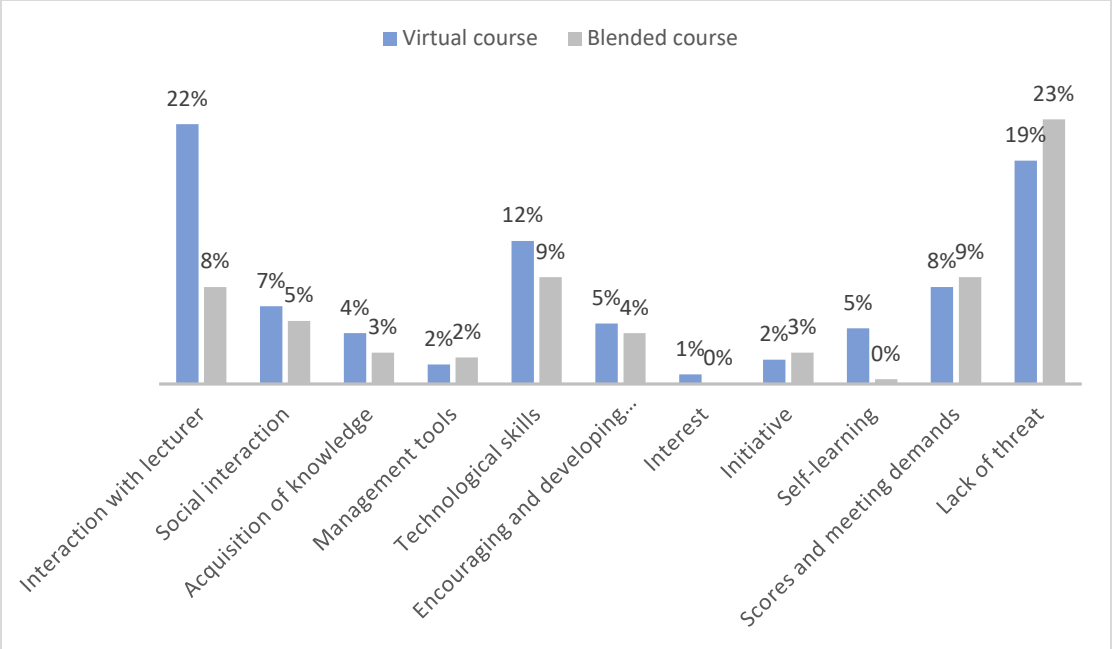

Figure 3: The perception of threat in the virtual and the blended course

Table 9: The perception of threat in a virtual and a blended course

Perception of threat in a course		Virtual course	Blended course	t(483)
Interaction with lecturer	M	22%	8%	6.572**
	(SD)	(42%)	(28%)	
Social interaction	M	7%	5%	0.949
	(SD)	(25%)	(23%)	
Acquisition of knowledge	M	4%	3%	1.636
	(SD)	(20%)	(16%)	
Management tools	M	2%	2%	0.727
	(SD)	(13%)	(15%)	
Technological skills	M	12%	9%	1.993
	(SD)	(33%)	(29%)	
Encouraging and developing thinking	M	5%	4%	0.648
	(SD)	(22%)	(20%)	
Interest	M	1%	0%	2.006
	(SD)	(9%)	(0%)	
Initiative	M	2%	3%	0.654
	(SD)	(14%)	(16%)	

Perception of threat in a course		Virtual course	Blended course	t(483)
Self-learning	M	5%	0%	4.464**
	(SD)	(21%)	(6%)	
Scores and meeting demands	M	8%	9%	0.478
	(SD)	(28%)	(29%)	
Lack of threat	M	19%	23%	1.767
	(SD)	(39%)	(42%)	

$p<.05^{*}$,$p<.01^{**}$

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance ($\alpha=0.05$) for multiple comparisons.

It was found that encouragement and development of thinking in the virtual course is perceived as a more meaningful threat among Arab students (10%) than among the general Jewish (0%) and ultra-orthodox Jewish (4%) students (Tables 10-13).

Table 10: Threat in a blended course – by background characteristics

Threats in a blended course	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Interaction with lecturer	8%	7%	9%	11%	11%	4%
Social interaction	5%	4%	6%	7%	7%	3%
Acquisition of knowledge	3%	2%	3%	3%	5%[k]	0%[k]
Management tools	2%	3%	2%	2%	4%	0%
Technological skills	9%	9%	9%	5%	12%	10%
Encouraging and developing thinking	4%	4%	5%	7%	5%	2%
Interest	0%	0%	0%	0%	0%	0%
Initiative	3%	1%	4%	3%	3%	1%
Self-learning	0%	1%	0%	0%	1%	0%
Scores and meeting demands	9%	10%	9%	10%	5%	12%

Lack of threat	23%	26%	22%	24%	18%[l]	30%[l]

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

It was found that the acquisition of knowledge is not perceived as a threat in the blended course among the general Jewish students (0%), but it was seen as such among 5% of the Arab students.

Table 11: Reaction to the sense of threat in a virtual course, by background characteristics

Threats in a virtual course	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Help from a close friend	31%	31%	32%	37%	34%	25%
Searching for information on the web/in a book	9%	7%	9%	4%[g]	14%[g]	8%
Turning to the lecturer	9%	13%[a]	7%[a]	6%[h]	8%	14%[h]
Coping on one's own	4%	3%	5%	6%	4%	4%
Student administration and other counseling entities	2%	1%	2%	3%	2%	1%
No sense of need to do anything	9%	7%	10%	10%	6%[i]	14%[i]

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

Table 12: Reaction to the sense of threat in a blended course, by background characteristics

Threats in a blended course	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Help from a close friend	11%	8%	12%	12%	16%[i]	6%[i]
Searching for information on the	15%	13%	16%	11%[j]	21%[j]	12%

web/in a book						
Turning to the lecturer	6%	5%	7%	8%	7%	4%
Coping on one's own	18%	26%[a]	14%[a]	24%[k]	14%[k]	16%
Student administration and other counseling entities	0%	0%	0%	0%	0%	0%
No sense of need to do anything	12%	10%	12%	9%[l]	8%[l]	20%[l]

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

Table 13: Negative feelings in a virtual course - by background characteristics

Threats in a virtual course	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Interaction with lecturer	17%	27%[a]	14%[a]	23%	16%	15%
Social interaction	6%	7%	6%	4%	8%	4%
Technological skills and accessibility	5%	4%	6%	6%	6%	3%
Understanding material and acquisition of knowledge	10%	11%	10%	15%	10%	7%
Self-learning and successfully meeting course requirements	12%	6%[b]	14%[b]	9%[n]	10%	19%[n]
Encouraging and developing high-order thinking	2%	4%	2%	3%	5%[o]	0%[c]
Anger and frustration	10%	7%	11%	13%	10%	8%
Lack of negative feelings	15%	17%	15%	13%	13%	22%

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

It emerges that the number of males who turned to the lecturer in response to a sense of threat in the virtual course (13%) was high than the number of females (7%), and that the number of non-orthodox Jews who turned to the lecturer in response to a sense of threat in the virtual course (14%) was high than the number of ultraorthodox Jews who did so (6%).

A similar analysis was conducted regarding respondents' negative feelings in the blended course. Table 14 below presents its results.

Table 14: Negative feelings in a blended course - by background characteristics

Threats in a blended course	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Interaction with lecturer	10%	10%	10%	17% [l]	9%	4% [l]
Social interaction	4%	3%	4%	5%	6% [m]	0% [m]
Technological skills and accessibility	7%	10%	6%	7%	8%	5%
Understanding material and acquisition of knowledge	3%	3%	4%	3%	4%	1%
Self-learning and successfully meeting course requirements	7%	2% [a]	9% [a]	3%	8%	9%
Encouraging and developing high-order thinking	4%	3%	4%	2%	7% [n]	1% [n]
Anger and frustration	4%	2%	5%	5%	4%	4%
Lack of negative feelings	21%	25%	19%	19%	20%	23%

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

It was found that a higher rate of ultra-orthodox respondents chose to cope on their own as a path of action against the sense of threat in the blended course (24%) compared to the number of Arab respondents who chose this option (14%) (Tables 15 and 16).

Table 15: Actions taken following negative feelings in a virtual course – by background characteristics

Response to negative feelings in a virtual course	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Friend/other students in course	22%	19%	23%	26% [h]	25% [h]	13% [h]
Lecturer	8%	10%	7%	10%	7%	9%
Coping on one's own	14%	17%	12%	17%	15%	9%
Searching for information	6%	3% [a]	8% [a]	4%	10%	6%
Student administration	2%	1%	2%	3%	1%	1%
No need to take action	9%	8%	9%	8%	8%	13%

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

Table 16: Actions taken following negative feelings in a blended course – by background characteristics

Response to negative feelings in a blended course	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Friend/other students in course	21%	18%	22%	23%	27% [j]	12% [j]
Lecturer	6%	7%	6%	9%	7%	3%
Coping on one's own	11%	13%	11%	12%	16% [k]	5% [k]
Searching for information	5%	4%	6%	1% [l]	8% [l]	7%
Student administration	0%	0%	0%	1%	0%	0%
No need to take action	15%	16%	14%	14%	11% [m]	21% [m]

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

FEELINGS OF ANGER AND FRUSTRATION IN A VIRTUAL COURSE

A comparison of the respondents' attitudes in this context in relation to background characteristics is presented in Table 17.

Table 17: Reasons for the sense of anger and frustration in a virtual course - characteristics

	Total sampled	Gender		Sector		
		Male	Female	Ultra-orthodox Jewish	Arab	General Jewish
N	484	135	340	145	177	138
Interaction with the lecturer	11%	7%	12%	17% [j]	10%	7% [j]
Lack of understanding	12%	12%	12%	20% [k]	5% [k]	11% [k]
Technical and technological problems	6%	7%	6%	8%	8%	3%
Requirements, pressure and workload	13%	11%	14%	12%	11% [l]	20% [l]
Success in the course	6%	8%	6%	6%	9%	4%
No anger	14%	19%	12%	10%	16%	17%

The gap in proportions is significant following the application of the Bonferroni correction to match the level of significance (α=0.05) for multiple comparisons.

Among the ultra-orthodox, 17% mentioned that their anger and frustration in the virtual course was due to the interaction with the lecturer. This is a higher rate than for the other sectors who mentioned this reason, but it is particularly higher than among the non-orthodox Jews (7%). Moreover, the lack of understanding of the course content was mentioned as a reason for anger and frustration in this course by 20% of the ultra-orthodox respondents. This figure is significantly higher than for the general Jewish sector who mentioned this reason (11%) and is particularly prominent given the low percentage of Arab students (5%) who mentioned this reason.

DISCUSSION

The purpose of this study has been to examine the sense of challenge and threat, as well as the self-efficacy and motivation among students taking virtual and blended courses on multicultural campuses, and see how we can provide each one of them with an equal opportunity to succeed in academic studies

This study reveals significant sectorial differences in the sense of challenge and threat, in negative feelings and in motivation.

We found that the sense of challenge and the level of motivation among Arab students were higher than those among ultra-orthodox Jewish students, and that the challenge and motivation among the latter were higher than among Jewish students who were not ultra-orthodox.

The comparison between the virtual and blended courses yielded a significant positive correlation between the willingness to cope with challenges in the virtual course and the willingness to cope with such challenges in the blended course ($r=.699$, $p<.01$), and also between curiosity about the material studied in the virtual course and in the blended course ($r=.533$, $p<.01$), as well as between mastery of the material studied in the virtual course and in the blended course ($r=.770$, $p<.01$). These findings indicate the existence of a positive correlation between the motivation to study in a virtual course and the motivation to study in a blended one, so that students with high motivation in one type of courses will most likely have a high level of motivation to study in the other type of course, and vice versa.

However, we found that the sense of threat and negative feelings were higher among students from the Arab sector than among students from other sectors, in both the virtual and the blended course (table 10-13).

The level of motivation and challenge among the Arab population can be explained by the will to succeed despite the transactional distance. This is important, considering the fact that the sense of challenge and motivation are critical for the achievement of academic success, which is perceived as a springboard to social mobility (Knesset Research and Information Center, 2014; Malchi et al., 2008; Shaviv et al., 2013).

However, these come simultaneously with high levels of threat and negative feelings among Arab students. Scholars (Allen & Seaman, 2010; Herbert, 2007; Liu, Magjuka, Bonk & Lee, 2007; Mandernach, 2009; Reupert, Maybery, Patrick & Chittleborough, 2009; Rovai, Wighting & Liu, 2005; Young & Bruce, 2011) found that creating a learning environment that is supportive of the students and attentive to their needs, as well as creating an active 'learning community', had a great impact on the course progress and on the learning process, and helped reduce the transactional distance among the students. This indicates that the high levels of motivation and challenge among the Arab population, along with creating a supportive learning environment for them, may reduce the transactional distance and help them achieve success, in both virtual and blended courses.

Moreover, creating a supportive learning environment may reduce the sense of threat regarding the acquisition of management tools, which poses a highly significant threat among Arab respondents (14%), and knowledge acquisition, which is perceived as a threat among 5% of the Arab students. With regard to encouraging autonomous coping, we found that a higher rate of the Jewish ultra-orthodox respondents chose this type of coping as a modus operandi to reduce their sense of threat in the blended course (24%), compared to a lower number of respondents from the Arab sector (14%).

Scholars (Edwards, Perry & Janzen, 2011; Pittman & Richmond, 2008; Young & Bruce, 2011; Zilka & Zeichner, 2017) found that lecturers could reduce the sense of threat and negative feelings and increase students' motivation if their presence was felt on the course website, and if they used the forums to dialogue with the students and also allowed and encouraged dialogue among the students themselves. Lecturers should also make sure they use a writing style that brings people closer rather than alienates them. They should shape learning rather than label it, clarify rather than rebuke. This way they can help reduce the transactional distance. On the other hand, lecturers who did not encourage the creation of a learning community and who remained detached, giving little feedback, increased the sense of transactional distance among their students.

Scholars (Birch, 2013; Bruff, Fisher, McEwen & Smith, 2013; Francis & Shannon, 2016; Olivier, 2016; Poon, 2013; Tan, 2016; Zilka & Zeichner, 2017) have recommended providing students with intellectual, emotional, and differential feedback. Meaningful feedback may reduce the sense of threat

and negative feelings and be an important factor in the student's perseverance in the course. Ignoring the students' difficulties may cause them to feel alienated, detached, and unable to cope with assignments, and even lead them to drop out of the course, and sometimes even out of university. The lecturers should locate these students as early as possible at the beginning of the course and help them map out their difficulties. If the difficulties stem from lack of work skills in a virtual environment, then the lecturers should help them acquire those skills. Good interaction between lecturers and students may reduce the students' feelings of incompetence and helplessness and contribute to their feelings of self-efficacy and ability to interact with the environment.

The integration of virtual learning environments into the learning process may lead to the realization of an educational vision in which autonomous learners realize their individual potential. Therefore one should assign these learners tasks that require them to apply higher order learning skills, rather than settle for high learning achievements in higher education. Students should be provided with differential solutions that will reduce their sense of threat and negative feelings, as well as the transactional distance between them.

CONCLUSIONS

The integration of virtual learning environments into the learning process might lead to the fulfilment of an educational vision in which autonomous learners realize their personal potential. Hence they must be given tasks requiring the application of high learning skills without compromise, but rather with differential treatment of students in order to reduce negative feelings and the sense of threat, and to reduce the transactional distance. Significant feedback might lessen the sense of threat and the negative feelings and be a meaningful factor for the students to persevere in the course. Intellectual, emotional and differential feedback is recommended.

FUTURE RESEARCH

Further studies should examine the causes of negative feelings among students participating in virtual and blended courses on multicultural campuses and how these feelings can be handled.

LIMITATIONS OF THE STUDY.

The study examined the subjective feelings of the students about the learning process in virtual and blended environments. We recommend continuing to explore the characteristics of the virtual environment and of teaching methods in these environments.

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