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Play Therapy: Development, Learning, and Therapy
Changing Students' Belief in a Just World: In-Class Simulations as Effective Pedagogy

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Peter A Kindle is retired. He worked in the Department of Social Work, University of South Dakota where he taught an introductory course in social work, research methods, statistics, social welfare policy, and electives in mental health and financial empowerment for social work practice. He co-founded the Social Welfare Research Consortium in 2012 to research the effects of taking a social welfare policy course. Our most recent study assessed attitudinal change toward wealth and taxes.

David Johnson passed away before publication. Dr. David Johnson, a/k/a "Mudcat," was an Associate Professor at Millersville University. A native of Kingsport, Tennessee, and a Longhorn, he was a licensed social worker in Pennsylvania where he landed in 2009 after completing his doctorate at the University of Texas at Austin. Dr. Johnson taught primarily in the policy sequences of the BSW program at Millersville University and in the macro practice and HBSE sequences of the joint Millersville-Shippensburg MSW program. He was a mediator certified to practice before the Texas courts and has developed electives in mediation at both the undergraduate and graduate level at Millersville. He was also responsible for developing the economics boot camp and the government boot camp for the MSW program, as well as developing the Social Welfare Policy and Economics class for the BSW program.

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Dr. Granruth teaches across the curriculum and in the BASW, MSW, and DSW programs at Millersville University. She currently serves as the coordinator of the MSW Program and was the DSW Coordinator from 2018-2020. Dr. Granruth's areas of focus in social work are policy, policy analysis and advocacy, and political social work. She has been a Board Member for Influencing Social Policy since May 2018. Dr. Granruth is Research Fellow with Millersville University's Center for Public Scholarship and Social Change (CPSSC). Through CPSSC she collaborates with her social work and university colleagues on community-based research to include social isolation and the development of social connections between students and participants in a local anti-poverty organization. Dr. Granruth also is a member of the Leadership Team for the Opioi Workforce Expansion Program with responsibility for research.

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Dr. Thompson has a diverse background of occupation, starting out in youth ministry, pastoral ministry, and inner-city ministry in North Philadelphia, PA. Dr. Thompson transitioned to social work in 2007 and worked for Big Brother/Big Sisters of Florence, Alabama and Sheffield Housing Authority in Sheffield, Alabama. Dr. Thompson joined the Social Work Department at Austin Peay State University in 2012 and attained tenure and Associate Professor status in August 2020. Currently, Dr. Thompson serves as the Chair of the Social Work Department at APSU and teachers in both the bachelors and maters programs.

Abstract

Cognitive dissonance is an important element in adult learning in that it challenges previously held ideas in favor of new knowledge. In-class simulations and game-based learning are used as innovative and effective pedagogical tools in challenging adult learners and enhancing the students' ability to think critically about larger societal needs. This paper will review the literature relevant to cognitive dissonance, adult learning, and game and simulation practices in

higher education. The authors present the results of one simulation activity in a quasi-experimental non-random comparison group conducted across five universities within multiple undergraduate and graduate level social work policy courses. Findings of this research on the use of simulations in social work policy courses can be used to guide other social work programs with embedding this effective educational practice into their programs. Institutions of higher education, specifically within the discipline of social work, can play an important role in continuing the research and evaluation of this effective pedagogical practice through measuring outcomes on student critical thinking and changes in student beliefs and biases.

KEY WORDS: Game-Based Learning, Simulations, Social Policy, Pedagogical Practice

Introduction

In 1966, researchers Lerner and Simmons originally identified the concept of Belief in a Just World (BJW). This construct indicated that people have a need to believe that we live in a just world, that things are fair and natural, and that the world makes sense (Jost, Glaser, Kruglanski, & Sulloway, 2003). The foundation of this construct is based on the premise that individuals get what they deserve; whenever this belief system is threatened for any reason, such as by the presence of innocent suffering, then individuals will attempt to preserve their belief in a just world by assisting the victim. If the individual is unable to assist the victim, the individual or group will often blame the victim for their outcomes (Lerner and Simmons, 1966). Additionally, this construct of a belief in a just world fulfills people's need to live in a predictable environment, i.e., an environment in which people who work hard are able to gain and obtain what they deserve (Lerner and Simmons, 1966). Furthermore, the construct also alludes to the fact that individuals who are not hard working or productive citizens within the community often do not receive rewards or the positive benefits of life (Dalbert, 2001). Although much research and work has been done to disprove that the world is just, BJW appears to continue to be a stable construct within today's society, particularly among conservatives (Jost et al., 2003). One of the roles of higher education is to challenge common thoughts, beliefs, and biases within the student population in order to create cognitive dissonance (Gorski, 2009); pedagogy itself (or more accurately, andragogy) is fundamentally based in the creation and resolution of cognitive dissonance (Taylor & Hamdy, 2013). Cognitive dissonance is defined as the mental discomfort experienced by a person or student who holds two or more contradictory beliefs or values simultaneously. Cognitive dissonance exists in the brain when two ideas held at the same time are contradictory to each other, and creates discomfort (like hunger is uncomfortable), which as a result should "impel a person to change his opinions and his behavior" (Festinger, 1962, p. 93). This mental discomfort usually develops in a situation where a previous belief or personal value is in direct contradiction to another individual's beliefs and ideas (Alfnes et al., 2010, p. 147). Cognitive dissonance can be used effectively in the classroom setting by intentionally creating discomfort through exposing individuals to conflicting knowledge about specific ideas and perceptions that challenge their historically held personal beliefs (Harmon-Jones et al., 2009). Cognitive dissonance has been linked to student enlightenment and evident changes in student perceptions, biases, and attitudes (Festinger, 1957). Learning new concepts or ideas challenges the learner who then creates new schemas (Taylor & Hamdy, 2013), but sometimes the individual feels such great discomfort that rather than learning new ideas, resolves the issue by devaluing or discarding the conflicting ideas and knowledge (Cooper, 2007; Harmon-Jones et al.,

2009) because they are too painful. This is particularly true for individuals with low tolerance for uncertainty because uncertainty prevents predictability and thus safety (Jost et al., 2003). As a result, students' perception of BJW is not readily amenable to change through standard lecture or discussion-based pedagogy as confirmed in two prior years of testing. This matters to social work because an individual who perceives the world to be just will necessarily reject change toward social justice. If the world is fair, why change it? If one believes that the world is just, then one must necessarily believe that poverty is deserved and thus blame the poor. Standard 6.04, Social and Political Action, of the NASW Code of Ethics mandates that "(a) Social workers should engage in social and political action . . . should advocate for changes in policy and legislation to improve social conditions" and "(d) Social workers should act to prevent and eliminate domination of, exploitation of, and discrimination" (NASW, 2018). The implementation of these standards requires the recognition that the world is not just, that changes are required, and that domination, exploitation, and discrimination do exist.

As pedagogical practitioners in social work, it is our responsibility to ensure our students are exposed to concepts and knowledge that will challenge their personal biases, particularly when those biases are in direct conflict with the Code of Ethics of the profession. Many students have individual biases that can affect their ability to display professional values that are expected and evident within the field of social work practice. Additionally, students who maintain specific biases struggle when interacting with marginalized groups in social work practice (Whaler, 2011). While traditional social work policy courses often address how specific policies impact the community based on culture, societal structure, and economic development, many students struggle with developing critical thinking skills and altering the biases they may have about specific social policies and their significance within our communities. As indicated in previous research, one of the main constructs that social policy courses should address is the societal construct of BJW (Cooper, 2007; Harmon-Jones et al., 2009). Although BJW is a construct often seen in the literature as a way in which to measure student bias and evaluate knowledge obtained within a social policy course, the typical activities and learning processes used within the course may not yield large changes in student bias and perception. A major responsibility rests with schools of social work to prepare undergraduate and graduate students to facilitate and promote social justice, think critically, and to be culturally responsive in their future practice, which includes being aware of one's own biases and perceptions of the world.

Practitioners' self-awareness is an essential skill that needs to be developed during their educational journey. Developing personal self-awareness involves students being knowledgeable of their own cultural heritage and the potential effects that history has on their work with clients (Sue, 2001). One way in which to challenge student's personal bias is through classroom-based experiential activities that create opportunities for cognitive dissonance. When looking at specific classroom-based activities that could enhance cognitive dissonance and challenge student biases within social work courses, there is a growing area of research about the use and effectiveness of class-based simulations and game-based activities.

Application to Children

Cognitive dissonance has been found to appear as early as two years of age **(**Grosse Wiesmann, et al., 2022). Children have been found to be subject to cognitive dissonance and the drive to reduce it, most particularly in "justification of effort" (Alessandri et al., 2008). All humans have a need to reduce the discomfort caused by cognitive dissonance and this has important implications for the formation and change of attitudes (Egan et al., 2007) and as a result, behaviors. According to Piaget, children as young as twelve are capable of abstract and critical thinking, and this has relevance for adolescent attitudes and behaviors, as well as the formation of thinking patterns into adulthood (Malik & Marwaha, 2023). The game described in this article can have important implications for the teaching of critical thinking in adolescents and preadolescents and can be a useful aid in therapeutic interventions and behavioral change.

The following paragraphs will review a small sample of research focusing on class-based simulations that have been proven to be effective in pedagogical practices.

Literature Review

In-class simulations and game-based learning are used as an effective pedagogical practice in education to enhance classroom learning and increase students' ability to think critically about larger societal needs (Anderson et al., 2009; Angelini, 2016). Most often used and researched in primary and secondary education, in-class simulations and game-based learning processes utilize technology-based or interactive problem-solving activities within the classroom setting (Yang, Chen, & Jeng, 2010; Connolly et al., 2012). Although these practices are typically seen in primary and secondary education settings, the concept of classroom simulations and game-based processes can be utilized within higher education as a novel approach to teaching critical thinking skills (McLoughlin & Lee, 2008; de Smale et al., 2015; Backlund & Hendrix, 2013). Games, and the process of gamification -which is understood as creating a game out of an activity that may not usually be game such as lecture content and typical coursework, can be used in higher education to stimulate student socialization, collaboration, and engagement in higher education while making the material seem more engaging, interesting, and relevant (Young, 2016).

One example of the use of game-based learning to enhance student skill level and knowledge was evident in an article by Young (2016). This article reviews the use of game-based activities within on campus library learning. Young (2016) investigated game and corresponding interactive activities used to increase undergraduate and graduate students' interest in the library services available on campus. Findings indicated that higher education games should include specific learning objectives and should be easily implemented, understood, and replicated. Young (2016) mentioned that classroom-based games and activities do not need to be overly complicated simply because it is targeting a higher learning bracket, and actually quite the opposite. Research indicated that the games in higher education settings should be low in frustration but high in participation, should be motivating, and should be engaging. Students should be aided by the activities to connect to the content in a meaningful and relevant way, while also learning the skills needed to meet the set course learning objectives. Young (2016) summarizes that the sample games used in higher education increased their undergraduate and

graduate students' use of on campus library facilities and improved the research products of students who participated in the game activities.
Ariffin, Oxley, and Sulaiman (2013) investigated whether game-based activities took into consideration culture, ethnicity, and native language and how those games affected an individual's performance and motivation to learn within the study. Findings indicated that when game-based learning processes are used, students in higher education are more likely to buy into the game, improve academic performance, and gain knowledge about the course content.

Zosky and Thompson (2012) looked at the effects of simulation activities on social work undergraduate students and their knowledge and understanding of poverty. The study was conducted to examine the effects of a simulated intervention where social work students role played being an individual from a low-income family where they had to participate using fake money, props, fictional timelines, and experiences as if they were actually living in poverty. Results of the study included qualitative feedback that measured student's pre and post simulation views and knowledge of poverty. Results indicated positive outcomes on the effects of educating students on the stereotypes and biases held by society regarding low-income families. The results of this research indicated that simulation-based educational activities influenced and yielded positive outcomes for students in higher education, and additionally provided evidence that learning provided on an experiential level compared to learning provided on a cognitive level only allowed students to have meaningful experiences that influence their capacity for critical thinking (Zosky & Thompson, 2012). The study also found that allowing the students to experience the potential outcomes and impacts of poverty on citizens allowed the students to reflect on their own experience and develop empathy for the populations affected by poverty.

Due to the extant literature on the effectiveness of simulations in higher education and the proven effectiveness of activities that include situations that create cognitive dissonance and experiential opportunities for students, this manuscript will explore the use of simulation-based activities within social work policy classes. This current study uses a quasi-experimental non-random comparison group to explore a specific in-class simulation's effectiveness in changing students' perceptions of BJW in a single semester utilizing pretest and posttest comparisons.

Method

Participants and Procedures

The Social Welfare Research Consortium is a voluntary association of social work educators who teach policy at the BSW level or the generalist (foundation) MSW level. In the 2016-2017 academic year, nine instructors teaching in five different CSWE accredited programs participated in the data collection. Geographically, the programs range from the upper Midwest, to the Great Lakes region, mid-Atlantic, and the Mid-South. After purchasing the product, five of the instructors made use, in at least one class, of a commercial in-class simulation game called StarPower® with permission from the company. The other four participating instructors did not utilize the product in class, creating non-equivalent intervention and comparison groups (see Table 1 for demographic comparisons between the groups).
StarPower®

The game takes place in the context of a semester-long policy course in social work. It takes one three-hour session or two hour and fifteen minutes class sessions where the game is played over one session and the debriefing and discussion take place over the next class session. All students enrolled in the course take part in the game, although not every student participates in the research survey. Students are simply told that they will play a game and the basic instructions for the game, but no details about the real purpose of the game or the biases introduced are shared with students until the debrief session. The basic instructions for the game are described here. For more detailed instructions, see http://www.simulationtrainingsystems.com/schools-and-charities/products/StarPower/. The game consists of tokens (or chips) in five different colors, paper bags, posters with "rules" of the game and point values, and pin buttons labeled with either green triangles, red squares, or blue circles. Each color token is assigned a value. The highest-value tokens are worth 8 points each, while the lowest-value tokens are worth 1 point each. Players can also get bonus points by obtaining more than four low-value tokens of the same color. Before the game starts, the instructor prepares three opaque paper bags with varying amounts of tokens of different values so that the chances of getting a high-value or a low-value token are predetermined although participants do not know this; participants then pick five tokens at random from one of the bags and hide the tokens from others. To play StarPower®, students or any group of participants or players are told that the purpose of the game is to conduct trading and to trade in such a way as to obtain a high score per the values assigned to the tokens in the point value poster. There are a number of rules such as "players must hold hands in order to speak and to conduct a trade" that are designed to introduce complexity and distractors to the game. After the first round, participants get a pin button with a red square if they are in the highest-scoring group, a blue circle if they are in the middle-scoring group, or a green triangle if they are in the lowest-scoring group. The game is repeated a couple of rounds while the instructor surreptitiously makes sure that participants pick tokens from the same biased bags. Participants are instructed to add their point totals after each round to further insure people stay in the same groups. After a couple of rounds, the instructor then praises high-point "earners" and instruct them to create a new set of rules for the game, since they are "so good at trading" and "so smart" and the "best" students. Students come up with rules which usually benefit those who make them. At the end of the game, there is a debriefing session where students are asked what happened and confronted with the fact that the game was not fair but rigged from the start. Various elements are discussed such as the role of distractors and the addition of points at each round, which preserves the advantage of the initial high-scorers.

After obtaining IRB approval at each institution, pretest, and posttest responses ($N = 305$) to an online SurveyMonkey questionnaire were collected in the first four weeks of instruction (pretest) in the relevant semester and near the end of the term (posttest) as directed by each instructor. Informed consent information as approved by each institution was provided as the first page of the questionnaire. Student email addresses were used to match pretest and posttest responses, but all identifying information was omitted from the data set once the final data set was completed. Instructors were never apprised of the specific responses of any of their students except for the instructor coordinating the online data collection. At instructors' discretion, extra credit equal to at most 5% of the course grade was offered for student participation. The overall response rate was 63.1% with significant variation by instructor. Two instructors had a response rate less than

50%, but the rest ranged from 54.4% to 100%. Data was downloaded electronically and merged to create a single data set for analysis which was conducted utilizing IBM SPSS Statistics v. 25.

Table 1
Respondent Demographics (N = 305)

	Intervention Group			Comparison Group		
Variable	*n*	%	Mean (SD)	*n*	%	Mean (SD)
Biological sex:						
Male	20	13.0		13	8.6	
Female	134	87.0		138	91.4	
Age (% of total respondents) **	153	50.3	28.90 (10.99)	151	49.7	26.20 (7.80)
Marital status:						
Single, no relationship	65	42.2		48	31.8	
Single, relationship	40	26.0		56	37.1	
Married, formerly, cohabiting	49	31.8		46	30.4	
Other				1	0.7	
Race/ethnicity: *						
African American	77	50.0		12	7.9	
Asian American	2	1.3		2	1.3	
White	69	44.8		122	80.8	
Latina/Latino	3	1.9		10	6.6	
Native American	3	1.9		3	2.0	
Other				2	1.3	
Program level:						
BSW	110	71.4		99	65.6	
MSW	44	28.6		52	34.4	
Where you grew up: *						
Rural	55	35.7		56	37.1	
Urban	54	35.1		34	22.5	
Suburban	45	29.2		59	39.1	
Other				2	1.3	
Mother's education:						
No high school degree	16	10.4		10	6.6	
High school degree	32	20.8		47	31.1	
Some college	43	27.9		43	28.5	
College degree	48	31.2		40	26.5	
Graduate degree	15	9.7		11	7.3	
Free or reduced lunches as child? *						
Yes	69	44.8		51	33.8	
No	85	55.2		100	66.2	
Income in comparison with others? *						
Far below and below average	53	35.0		64	42.4	
Average	81	52.6		58	38.4	
Far above and above average	19	12.3		29	19.2	

Variation in frequencies due to missing data. "Other" responses excluded from Chi square tests. * - $p < .05$ in Chi square test. ** - $p < .05$ in *t*-test.

Instrumentation

In addition to the demographic questions summarized on Table 1, respondents completed the 13-item Belief in a Just World Scale (Dalbert, 1999) at both pretest and posttest. This 6-point summative Likert sale does not make use of reverse coding, and we were unable to confirm Dalbert's two factor structure in preliminary analysis. A stronger belief in a just world is indicated by higher scores with adequate internal consistency in this sample at pretest ($\alpha = .811$) and posttest ($\alpha = .861$). The minimum possible score, indicating belief that the world is completely unjust, is 13 and the maximum possible score, indicating that the world is completely just, is 78. A score of 39 would indicate belief that the world is somewhat unfair, and a score of 52 would indicate that belief that the world is slightly fair. At both pretest and posttest, normativity and variability were adequate (pretest Mean = 48.16, SD = 8.52, skew = -.483), and (posttest Mean = 47.91, SD = 9.61, skew = -.354). Other preliminary analyses conducted included linearity, assessed with scatterplots; homogeneity of variances, assessed with Levene's Test of Equality of Error (p=.209); and normality with Kolmogorov-Smirnov (0.069, p=.069)**.** Because individual teaching differences may be relevant and because the game was a small part of the semester, we also conducted ANOVA, ANCOVA, and regression.

Results

Bivariate analyses indicated that there were significant differences between the intervention and control groups. Specifically, the intervention group was older (28.9 years to 26.2 years [$t(274.342) = -2.476$, $p = .014$] , and accordingly to Chi square tests, less likely to be White (44.8% to 80.8%) with an urban rather than suburban background. As children, the intervention group was more likely to have received free or reduced lunches (44.8% to 33.8%), and they were more likely to report average or higher current incomes in comparison to others (64.9% to 57.6%). There were also statistically significant differences in age (t=-2.439, p=.016) between minority students (mean (SD)=29.4 (11.4447) who tended to be older than non-minority students (mean (SD)=26.4(8.1838). There were no reported significant differences in marital status, program status, or mother's level of education (a proxy for socioeconomic status).

The dependent variable of interest, BJW, did not produce significant change between pretest and posttest for either group; however, the intervention group did report a decline while the comparison group reported an increase in belief in a just world. Independent *t*-test comparison indicated that this change in belief in a just world was statistically significant with a modest effect size. However, t-test analyses indicated statistically significant differences on the BJW by minority status at pretest (mean (SD), minority=45.2(8.2536), non-minority=49.92(8.2043), t=4.864, p=.000) and at posttest (mean (SD), minority=44.9(9.4843), non-minority=45.2(9.2718), t=4.284, p=.000). Following these analyses, significant results were found on ANOVA conducted to explore the differences among instructors at pretest F(5, 299)=6.118, p=.000) and posttest (F(5, 299)=3.834, p=.002). The means and standard differences on BJW at pretest and posttest are listed on table 2.

Table 2

Means and Standard Deviations by Instructor and by Intervention or Comparison Group

		Pretest		Posttest	
	N	Mean	Std. Deviation	Mean	Std. Deviation
Total Participants	305	48.2	8.5237	47.9	9.6149
Intervention	154	47.8	8.9995	46.5	9.5890
Intervention Group 1	23	53.7	8.0760	50.7	9.6588
Intervention Group 2	42	45.0	8.6361	43.9	9.8515
Intervention Group 3	74	46.6	8.2810	45.9	9.1605
Intervention Group 4	7	55.0	9.0921	50.3	11.2948
Intervention Group 5	8	51.0	10.0143	49.1	6.1047
Comparison	151	48.5	8.0240	49.4	9.4439
Comparison Group 6	29	49.7	7.4205	49.7	7.5871
Comparison Group 7	62	47.2	8.0641	48.4	10.7371
Comparison Group 8	24	47.4	8.8210	49.5	8.7278
Comparison Group 9	21	48.1	7.2683	48.7	8.9730
Comparison Group 10	15	53.8	7.0933	53.7	8.4976

Further analysis consisting of ANCOVA, conducted to investigate the change at posttest while controlling for BJW score at pretest, indicated statistically significant change from pretest to posttest on BJW. After adjustment for pretest BJW scores, there was a statistically significant difference in the BJW posttest between the intervention and comparison groups ($F(1,302)=7.855$, $p=.005$, partial η^2 . Data are adjusted mean ± standard error. Mean BJW scores at posttest are lower for intervention group at posttest (46.681 ± .622) than for comparison group (49.160 ±.628). Regression analyses indicated that the demographic variables were statistically significant predictors of the change in belief in a just world that explained a very small proportion (2.9%) of the variance. Only two predictors, participation in an intervention group and age, were statistically significant in the regression (see Table 3). As age increased, there was a modest tendency to resist the decline in belief in a just world, partially reversing the effect of participation in the intervention group since the intervention group was significantly older at the outset of the study.

Table 3

Predictors of Change in Belief in a Just World

	Change BJW	95% CI
Constant	7.273	[-.90, 15.4]
Intervention (no – 0, yes – 1)	3.027**	[1.06, 5.00]

Race (White – 0, other – 1)	-1.256	[-3.55, 1.04]
Marital status (married – 0, other – 1)	.383	[-2.11, 2.87]
Urban (1), non-urban (0)	1.662	[-.49, 3.81]
Age in years	-.126*	[-23, -.02]
Free/reduced lunch (yes – 1, no – 0)	-.399	[-2.62, 1.82]
Current income (1 – lower to 3 – higher)	.260	[-1.13, 1.65]
Mother's education (1 – no high school to 5 – graduate degree)	-.350	[-1.22, .52]
Biological sex (0 – male, 1 – female)	-2.178	[-5.15, .79]
Program level (0 – BSW, 1 – MSW)	.292	[-1.71, 2.29]
Adjusted R^2	.029	
F	1.918*	

* $p < .05$; ** $p < .01$.

Discussion

Even though the change between pretest and posttest is small, more important than the small percent of change is the direction in which change occurred. Those classes in the intervention group obtained a lower mean score on the BJW at posttest than the comparison group and a lower mean than at pretest, and the comparison group reported a higher mean than the intervention group and that at pretest (see Table 2), with the result that those in the intervention group perceived the world as less just after the intervention than those who did not receive the intervention. The results of the ANCOVA suggest that the StarPower® simulation was an effective tool in changing students' perceptions of BJW. While the η^2 indicates a small effect size, StarPower® consisted in less than three hours of class time, about 7% of the course, but all classes that participated in StarPower® obtained lower scores at posttest than at pretest, and that all of the classes in the control group either had higher scores at posttest than at pretest or no change. It is important to understand BJW in the context of the maximum score. Mean scores at pretest suggest that all students perceived the world to be slightly fair. Interestingly, the mean score of minority students at pretest was lower than for non-minority students, which makes sense given the racial disparities and discrimination minority students will have experienced. It is logical that somebody who has faced more barriers and thus sees herself as a scrappy little fighter would understand that the world is not fair and so would score lower on BJW naturally than someone who has not had to face as many barriers. This makes sense in light of cognitive dissonance theory (Festinger, 1957), as individuals who have benefitted from the existing system would need to justify it more than those who have not (Jost, et al., 2003). On the other hand, the

small effect of the intervention is consistent with a reaction to cognitive dissonance described by Festinger (1962, p. 93) in which people presented with two potential gifts tended to like them equally but upon receiving one of the two, adjusted their perception to like that one best. That effect described by Festinger would suggest that people come to see the world that's fair simply because it is so, and thus seen as unavoidable, with the result that even people who have been marginalized would believe the world is fair. Viewing current conditions as acceptable or even desirable is a strong coping mechanism born out of powerlessness (Festinger, 1962). Since that seems inevitable, and since cognitive dissonance is so painful, then people delude themselves that they are happy, that they prefer the *status quo*, and that the world is just and fair (Festinger, 1957; 1962). The results of this study appear to suggest that it takes a strong dose of cognitive dissonance to change one's mind. It may take a truly earth-shattering event such as almost dying in a car accident or a terrorist attack to impel people to recognize the reality of the situation.

To the degree that people accept the dominant culture in the United States, and to the degree they accept the idea that hard work will result in success (Jost et al., 2003), it will be difficult to change social work students' BJW. What is fascinating in this study is that StarPower® challenges BJW in a way that students who were not exposed to the game/simulation are not challenged. In view of all of this, we interpret the results of this study to be quite extraordinary in that all participants in the game moved their scores in the desired direction. It bears repeating that the simulation game was but a small part of an entire semester in which many other activities occurred and in which the simulation was delivered by a large and varied group of instructors.

The other factor to consider in attempting to explain why the change was small is loss aversion. Loss aversion is a powerful drive that impels individuals to try to protect from losses rather than promote gains because losses are much more painful than gains are pleasurable (Abdellaoui, Bleichrodt & Paraschiv, 2007; Hobfoll, 1989; Kahneman & Tversky, 1979). Loss aversion may thus drive people to accept an unfair system in which they are surviving because the loss of that survival is twice as scary as potential gains (Abdellaoui et al., 2007). This would suggest that those who have nothing to lose are much less loss averse, that is, if people have something to lose, then they are more likely to want to keep it. At the same time, then, it makes sense that those who have more to lose would be more likely to see the world as fair, again because they benefit from existing structures. Loss aversion increases with age (Johnson, Gaechter & Herrmann, 2006), possibly as a result of an increase in resources, and this is consistent with our findings that age increases resistance to change in BJW. Loss aversion is such a strong force that it leads to the justification of a world that is not fair. If even in an unfair system people have something to lose, they will then resist change even when the change is for their benefit. That mechanism partially explains how conservative ideology operates (Jost, et al., 2003), and explains why it is so very difficult to change students' perceptions of BJW.

Future research should replicate the current research with children as young as twelve years of age. Teaching critical thinking and the recognition of cognitive dissonance are important in a world in which young people are bombarded with sources of information that may not all be accurate. Gamification has been shown to be an effective way to teach a variety of skills to young people (Ellison et al., 2016; Junco, 2014; Kersánszki et al., 2023), and has practical applications in teaching concepts that are often hard to grasp.

There are a few limitations to this research that should be identified for preparation of future replications of this study. One such limitation could be within the actual preparedness of the StarPower® facilitators for the classroom simulation and implementation. The previously reported results may have been somewhat muted by the lack of experience most of the social work policy educators had with the StarPower® class-based activity. StarPower® is an effective classroom simulation, but it does require some preparation and experience in administering for the effect of the simulation to be seamless. For future research and replications, a competency-based pre-training process would benefit the pedagogical practitioners in administering the StarPower® program with ease and fidelity.

Another potential threat to the validity of the research outcomes could be found within the intervention group's mean age and their slightly higher affluence than that of the comparison group. Research conducted by Authors (2019), indicated that higher reports on SES factors appear to resist change in the constructs of BJW. These findings indicate that these slightly higher means on age and SES may have affected the overall research outcomes. Future replications of this research should include larger sample sizes, population samples with equal cohorts of traditional and non-traditional students, and samples with more diverse student bodies to address this limitation.

Conclusion

It is important to challenge the passive acceptance of the world as it is and as fair in social work education. The first step in seeking change is the recognition that the world is not as it should be, and that the conditions and inequities are the result of unfairness and of a biased system that benefits some and punishes others. No change is possible if the world is seen as fair, because under fair circumstances no change is desirable. If the world is fair, why would we want to change it? Only a strong realization that there are profound injustices in the world, strong enough to overcome fear and loss aversion will lead social work students to become agents for change and advocates for social justice. Game simulations such as StarPower® are a good tool for educating social workers who will work to change the world.

References

Abdellaoui M., Bleichrodt H. & Paraschiv C. (2007). Measuring loss aversion under prospect theory: a parameter-free approach. *Management Science, 53*, 1659-1674.

Alessandri, J., Darcheville, J. C., & Zentall, T. R. (2008). Cognitive dissonance in children: justification of effort or contrast?. *Psychonomic bulletin & review*, *15*(3), 673–677. https://doi.org/10.3758/pbr.15.3.673

Alfnes, F., Yue, C., Jensen, H.H. (2010). Cognitive dissonance as a means of reducing hypothetical bias. *Eur. Rev. Agri. Econ. 37*, 147-163.

Anderson, E.F., McLoughlin, L., Liarokapis, F., Peters, C., Petridis, P., & Freitas, S.D. (2009). *Serious games in cultural heritage*. In M. Ashley & F. Liarokapis (Eds.), VAST 2009: 10th International Symposium on Virtual Reality, Archaeology and Cultural Heritage, 22-25 (pp. 29-48). St. Julians, Malta: Eurographics Association.

Angelini, M.L. (2016). Integration of the pedagogical models "simulation" and "flipped classroom" in teacher instruction. *SAGE Open, 6*(1). doi: 10.1177/2158244016636430.

Ariffin, M., Oxley, A., & Sulaiman, S. (2013). Evaluating game-based learning effectiveness in higher education. *Social and Behavioral Sciences, 123*, 20-27.

Backlund, P. & Hendrix, M. (2013). Educational games-are they worth the effort? A literature survey of the effectiveness of serious games. *Games and virtual worlds for serious application (VS-GAMES), 5,* 1-8.

Connolly, T.M., Boyle, E.A., MacArthur, E., Hainey, T., & Boyle, J.M. (2012). A systematic literature review of the empirical evidence on computer games and serious games. *Computers & Education, 59*, 661-686.

Cooper, J. (2007). *Cognitive dissonance: 50 years of a classic theory*. Los Angelas, CA: Sage.

Dalbert, C. (1999). The world is more just for me than generally: About the Personal Belief in a Just World Scale's validity. *Social Justice Research, 12*(2), 79-98.

Dalbert, C. (2001). *The justice motive as a personal resource: Dealing with challenges and critical life events*. New York, NY: Kluwer/Plenum.

de Smale, S., Overmans, T., Jeuring, J. & van de Grint, L. (2015). The effect of simulations and games on learning objectives in tertiary education: A systematic review. *Games and Learning Alliance 4th International Conference*, GALA, Rome.

Egan, L.C., Santos, L.R., & Bloom, P. (2007). The Origins of cognitive dissonance: Evidence from children and monkeys. *Psychological Science, 18*(11), 978-983.

Ellison, T.L., Evans, N., & Pike, J. (2016). Minecraft, teachers, parents, and learning: What they need to know and understand. *School Community Journal, 26*(2), 25-43.

Festinger, L. (1957*). A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.

Festinger, L. (1962). Cognitive dissonance. *Scientific American, 207*(4), 93-106.

Gorski, P.C. (2009). Cognitive dissonance as a strategy in social justice teaching. *Multicultural Education 17*(1) 54-57.

Grosse Wiesmann, C., Kampis, D., Poulsen, E., Schüler, C., Lukowski Duplessy, H., & Southgate, V. (2022). Cognitive dissonance from 2 years of age: Toddlers', but not infants', blind choices induce preferences. *Cognition*, 223, 105039. https://doi.org/10.1016/j.cognition.2022.105039

Harmon-Jones E., Amodio D. M., Harmon-Jones C. (2009). Action-based model of dissonance: A review, integration, and expansion of conceptions of cognitive conflict, in *Advances in*

Experimental Social Psychology, 41, ed Zanna M. P., editor. (Burlington, MA: Academic Press),119–166.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*, 513-524.

Johnson, E., Gachter, S., and Herrmann, A. (2006). Exploring the nature of loss aversion. *IZA Discussion Paper No. 2015*. Available at http://dx.doi.org/10.2139/ssrn.892336

Jost, J.T., Glaser, J., Kruglanski, A.W., & Sulloway, F.J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin 129*, 339-375.

Junco, R. (2014, April 28). Beyond "screen time": What Minecraft teaches kids. *The Atlantic*. Retrieved from http://www.theatlantic.com/technology/archive/2014/04/beyond-screentime-what-a-good-game-like-minecraft-teaches-kids/361261/

Kahneman, D., Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*, 263-291.

Kersánszki, T., Holik, I., & Márton, Z. (2023). Minecraft game as a new opportunity for teaching renewable energy topics. *International Journal of Engineering Pedagogy* (iJEP), *13*(5), 16–29.

Lerner, M. J., and Simmons, C. H. (1966). Observer's reaction to the "innocent victim": Compassion or rejection? *J. Pers. Soc. Psychol. 4*: 203–210.

Malik, F., Marwaha, R. (2023, April 23). Cognitive development. In: *StatPearls* [Internet]. Treasure Island, FL: StatPearls Publishing. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK537095/

McLoughlin, C., & Lee, M.J.W. (2008). The three P's of pedagogy for the networked society: Personalization, participation, and productivity. *International Journal of Teaching and Learning in Higher Education, 20*(1), 10-27.

National Association of Social Workers [NASW]/ (2018). Code of Ethics. Retrieved from https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English

Sue, D.W. (2001). Multidimensional facets of cultural competence. *The Counseling Psychologist, 29*, 790–821.

Taylor D.C.M., & Hamdy, H. (2013) Adult learning theories: Implications for learning and teaching in medical education: AMEE guide no. 83. *Medical Teacher, 35*, e1561-e1572.

Whaler, E. (2011). Identifying and challenging social work students' biases. *Social Work Education. 31*(8), 1-13.

Yang, J.C., Chen, C.H., & Jeng, M.C. (2010). Integrating video-capture virtual reality technology into a physically interactive learning environment for English learning. *Computers & Education, 55*, 1346-1356.

Young, J. (2016). Can library research be fun? Using games for information literacy instruction in higher education. *Georgia Library Quarterly, 53* (3).

Zosky, D., & Thompson, J. (2012). Poverty simulation: An experiential learning tool emphasizing economic justice content. *The Journal of Baccalaureate Social Work, 17*.