Why Engagement Matters in Sport Volunteer Motivation

Marcella G. Otto  
*Northern Illinois University*, motto@niu.edu

J. Michael Martinez  
*Louisiana State University and Agricultural & Mechanical College*, jmmartinez@lsu.edu

Chris R. Barnhill  
*Georgia Southern University*, cbarnhill@georgiasouthern.edu

Follow this and additional works at: https://trace.tennessee.edu/jasm

Part of the Sports Management Commons

Recommended Citation
https://doi.org/10.7290/jasm141771  
Available at: https://trace.tennessee.edu/jasm/vol14/iss2/4

This article is brought to you freely and openly by Volunteer, Open-access, Library-hosted Journals (VOL Journals), published in partnership with The University of Tennessee (UT) University Libraries. This article has been accepted for inclusion in Journal of Applied Sport Management by an authorized editor. For more information, please visit https://trace.tennessee.edu/jasm.
Why Engagement Matters in Sport Volunteer Motivation

Marcella G. Otto  
*Northern Illinois University*

J. Michael Martinez  
*Louisiana State University*

Chris Barnhill  
*Georgia Southern University*

Abstract

Over the years, sport management scholars have been interested in sport volunteer research. Considering there is a heavy reliance on sport volunteers to successfully stage sporting events, knowing how to recruit and retain these volunteers allows sport event managers and organizers to continue this success. One such way is through understanding the engagement of sport volunteers, specifically the influences of engagement. Through survey methodology, this study examined how engagement of 464 sport volunteers at college football bowl games influenced motivational factors to volunteer. Structural Equation Modeling found that meaningfulness and safety, but not availability, had a significant impact on love and purposive motivation through engagement, but there was no significant relationship with rewards. An implication for sport event organizers working with volunteers is to assign meaningful roles that have an impact on the community as well as for the volunteers themselves.

**Keywords:** human resource management, volunteer engagement, volunteer motivation

Please send correspondence to Marcella G. Otto, motto@niu.edu
Why Engagement Matters

Introduction

In the past few decades, sport scholars have routinely examined the importance of volunteerism for events (Renfree & West, 2021; Wicker, 2017). Regardless of the type of event, whether small-scale or mega-events, sport volunteers constitute an important and valuable human resource for event organizers (Bae et al., 2011; Miller et al., 2021). For example, the recent Olympic Games in Tokyo relied on approximately 80,000 volunteers (Blanc & Masami, 2016). However, scholars have also noted a drop in volunteerism (Ringuet-Riot et al., 2014), suggesting organizations need to find ways to retain and recruit volunteers to stay successful (Cuskelly et al., 2006; Kappelides & Johnson, 2020).

Research suggests that one key concept regarding sport volunteers is the influence motivation has on volunteers’ experiences, perceptions, and behaviors (Hallman & Zehrer, 2019; Sheptak & Menaker, 2016). Understanding these relationships are key to addressing event organizers’ management, planning, and recruitment tactics. While an extensive portion of literature already focused on volunteers’ motivational factors, finding higher levels of motivation among volunteers when they felt valuable to the organization and connected to the event (see Bang & Ross, 2009; Fairley et al., 2007; Farrell et al., 1998), there remain gaps to explore such as the influence of how engagement impacts this relationship. Engagement is a unique construct (Saks & Gruman, 2014; Shuck et al., 2014) and is mostly referred to as “an individual employee’s cognitive, emotional, and behavioral state directed toward desired organizational outcomes” (Shuck & Wollard, 2010, p. 103). Recent research has explored this notion of engagement within sport management and sport volunteers (Otto et al., 2021; Svensson et al., 2021).

Engagement in this sense originates from Kahn’s (1990) conceptualization of personal engagement and has been successfully applied within the general management setting through Shuck et al.’s (2017) model of engagement. Specifically, Svensson et al. (2021) addressed engagement among non-profit and paid staff in sport to find that it positively influenced psychological well-being, while Otto et al. (2021) found engagement enhanced satisfaction and intention to continue volunteering. Given that motivation is a similar outcome of interest for sport scholars, there is value in assessing sport volunteers through the lens of engagement to understand how engagement levels impact motivation. Therefore, the purpose of this study was to examine how antecedents to engagement (meaningfulness, safety, and availability) influenced the motivations of sport volunteers at college football bowl games.

Conceptual Framework

Engagement and its influence on employee behaviors has become popular within the field of management (Albrecht, 2010; Saks & Gruman, 2014). Research suggests organizations can obtain a competitive advantage through engaged individuals, who are more productive and effective in their contribution to organizational success (Macey et al., 2009; Rich et al., 2010). As previously mentioned, engagement refers to the level of attitudinal and behavioral effort one puts towards specific organizational outcomes (Shuck et al., 2017). The three psychological conditions to engagement include psychological meaningfulness, safety, and availability (Kahn, 1990, Shuck et al., 2017). Meaningfulness reflects feelings of value, while safety allows an individual to feel safe in their environment. Psychological availability focuses on the presence of emotional and physical resources that influence one’s experience. These three psychological states combine to provide for more effective work experiences for human resources (Anitha, 2014). One such resource important to sport include volunteers (Fairley et al., 2007; Kodama et al., 2017).
Motives for Volunteers at Sporting Events

Research regarding sport event volunteers has been a topic of interest among scholars for nearly 30 years (Kim, 2018). Much of this stems from the heavy dependence sport event organizers have on volunteers (Renfree & West, 2021), which is especially distinct in one-time or episodic volunteering (Kim, 2018). Throughout this time, there are various motives found within the literature for individuals to decide to volunteer (see Kim, 2017 for a more robust review). Among these, Farrell and colleagues (1998) identified four categories for sport volunteer motives, including “purposive motivation” which is described as wanting to give back and contribute to society. Furthermore, Bang and Ross (2009) identified volunteer motivations such as “love of the sport” and “rewards” that were crucial beyond “the simple reason of helping others” (Bang & Ross, 2009, p. 70). With college football being considered an important part of American culture (Popp et al., 2017; Seifried et al., 2018), these three motives were chosen to be explored in the current study.

Both studies, Farrell et al. (1998) and Bang and Ross (2009), found higher levels of satisfaction within volunteers was attributed to making the event a success. Incorporating the emphasis on motivations and satisfaction proposed in prior research, scholars have additionally explored how engagement influences this relationship (Bakhshi & Gupta, 2016; Riyanto et al., 2021), albeit focusing on work motivation. Answering a call for more theoretically applied research regarding sport volunteers motivation (Kim, 2018), the present study incorporates engagement, specifically psychological meaningfulness, as critical to staging a successful sporting event.

Therefore, the hypotheses proposed in this study were as followed:

\( H_1 \) Engagement will be positively associated with rewards, love, and purposive motivation.

\( H_2 \) Meaningfulness, safety, and availability will be related to rewards through engagement.

\( H_3 \) Meaningfulness, safety, and availability will be related to love through engagement.

\( H_4 \) Meaningfulness, safety, and availability will be related to purposive through engagement.

**Figure 1**

*Research Model*
Methodology

This study utilized a quantitative approach to assess the relationships between the independent variables (psychological meaningfulness, psychological safety, and psychological availability) and the dependent motivational outcome variables (reward, love, and purposive) measured through engagement to examine the strength between the variables (see Figure 1). After receiving IRB approval, the researchers were able to gain access to the Football Bowl Association’s (FBA) executive director. The FBA executive director forwarded the individualized survey through Qualtrics via email to the directors at each bowl game. While each participating bowl director received their respective survey link with instructions to send out the survey link at the beginning of the year in 2020, ten bowl game directors sent out the survey and invited their volunteers to participate in January 2020. A total of 3,350 volunteers received it and while 480 were returned, 464 were deemed useable for a response rate of 15%.

Instrument

In total the survey consisted of 48 questions, including four demographic questions, and was distributed online through Qualtrics. Questions were measured on a 7-point Likert type scale ranging from 1=strongly disagree to 7= strongly agree. Antecedents to engagement were measured utilizing May et al.’s (2004) scales on meaningfulness (six items), safety (three items), and availability (four items). Shuck and colleagues’ (2017) 12-item engagement scale was utilized to assess each of the three subdimensions: cognitive, emotional, and behavioral engagement. To measure extrinsic rewards (three items) and love of sport (four items), questions were utilized from Bang and Ross’ (2009) VMS-ISE scale. Additionally, five items were utilized from Farrell et al. (1998) to assess purposive motivation. All of the above instruments have been found to be psychometrically valid by prior research (Kim, 2018; Shuck et al., 2017). Moreover, a panel of five experts on the topic were recruited to establish face and content validity (De Vaus, 1986). Lastly, researchers conducted a pilot test involving undergraduate students with volunteer experiences in sport activities to review construct validity and reliability of scales (Gratton & Jones, 2004).

Participants

Overall, there were a total of 464 volunteers who completed the survey of which 250 identified as males while 214 identified as females. Many of the participants identified their race to be White (n=317), followed by Black or African American (n=78), or Other (n=60). From an age perspective, most volunteers were part of the 55 and older category (n=260). A slightly higher number (n=286) indicated to have traveled one hour or less to be part of their respective bowl game.

Results

At the conclusion of data collection, the responses were inspected for missing data. Missing data were replaced with the series mean. Exploratory factor analysis was conducted to determine any items with factor loadings of individual items. Apart from one item in the safety scale, factor loadings met acceptable levels (b ≥ .5) per Hair and colleagues (2010). That item was removed from further analysis. Internal consistency was determined via Cronbach’s Alpha. Table 1 presents the means, standard deviations, and Cronbach’s alphas for each scale. A confirmatory factor analysis (CFA) was conducted to evaluate convergent validity of the measurement model. All factor loadings met the acceptable
threshold (b ≥ .5). Chi square was significant ($\chi^2 = 1511.61$, $df = 563$, $p < .001$), however all other fit indices were acceptable ($RMSEA = .060$, $SRMR = .043$, $CFI = .931$) (Hu & Bentler, 1999; Kline, 2016).

**Table 1**
*Descriptive Statistics for Mean, Standard Deviation, and Cronbach’s Alpha*

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaningfulness</td>
<td>6.39</td>
<td>.82</td>
<td>.95</td>
</tr>
<tr>
<td>Safety</td>
<td>6.25</td>
<td>.75</td>
<td>.68</td>
</tr>
<tr>
<td>Availability</td>
<td>6.45</td>
<td>.59</td>
<td>.84</td>
</tr>
<tr>
<td>Engagement</td>
<td>6.39</td>
<td>.76</td>
<td>.84</td>
</tr>
<tr>
<td>Motivation R</td>
<td>4.20</td>
<td>1.58</td>
<td>.83</td>
</tr>
<tr>
<td>Motivation L</td>
<td>6.13</td>
<td>.93</td>
<td>.86</td>
</tr>
<tr>
<td>Motivation P</td>
<td>6.46</td>
<td>.64</td>
<td>.87</td>
</tr>
</tbody>
</table>

$N = 464$

*Note.* Motivation R= rewards; Motivation L= love; Motivation P= purposive.

Analysis was conducted using Mplus 8.0 software (Muthen & Muthen, 1998-2017) to test the four proposed hypotheses, which can be found in Appendix A (see Appendix) along with the direct and indirect effects on hypotheses testing. H1 was partially supported as engagement had a significant, positive effect on love ($\beta = 0.352$, $p < .01$) and purposive ($\beta = 0.571$, $p < .01$), but not on rewards. H2 was not supported, demonstrating that the three antecedents to engagement did not influence motivation though engagement. H3 and H4 were also partially supported and showed that both, meaningfulness and safety were positively related to love ($\beta = 0.263$, $p < .01$; $\beta = 0.050$, $p < .05$) and purposive motivation ($\beta = 0.427$, $p < .01$; $\beta = 0.081$, $p < .05$) through engagement. Analysis of the model fit fell into the standard accepted ranges ($\chi^2 = 552.833$, $df = 303$, $p < .000$; $RMSEA = .0043$; $SRMR = .042$; $CFI = .955$) (Hu & Bentler, 1999; Kline, 2016). While the chi square value was significant, it was most likely due to the large sample size and therefore not of concern. Table 2 presents all factor loadings.

**Table 2**
*Standardized Direct and Indirect Effects*

<table>
<thead>
<tr>
<th></th>
<th>Engagement</th>
<th>Motivation R</th>
<th>Motivation L</th>
<th>Motivation P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effects</td>
<td>SE $\beta$</td>
<td>SE $\beta$</td>
<td>SE $\beta$</td>
<td>SE $\beta$</td>
</tr>
<tr>
<td>Engagement</td>
<td>0.097</td>
<td>-0.008</td>
<td>0.049</td>
<td>0.352**</td>
</tr>
<tr>
<td>Meaning</td>
<td>0.056</td>
<td>0.752**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>0.053</td>
<td>0.134*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability</td>
<td>0.059</td>
<td>0.120**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaning</td>
<td>0.041</td>
<td>-0.006</td>
<td>0.066</td>
<td>0.263**</td>
</tr>
<tr>
<td>Safety</td>
<td>0.008</td>
<td>-0.001</td>
<td>0.027</td>
<td>0.050*</td>
</tr>
<tr>
<td>Availability</td>
<td>0.008</td>
<td>-0.001</td>
<td>0.035</td>
<td>0.042</td>
</tr>
</tbody>
</table>

*Note.* Motivation R= rewards; Motivation L= love; Motivation P= purposive; ENG= engagement; *$p<.05$. **$p<.01$. 

38
One of the aims of the present study was to examine how antecedents to engagement influenced the motivations of sport volunteers. Findings suggest that meaningfulness and safety have a positive relationship with engagement, while availability did not. Furthermore, meaningfulness and safety influence love and purposive motivations through engagement. Finally, none of the antecedents influenced extrinsic rewards.

Taken within the context of sport volunteers, there are some interesting takeaways from these findings. As previously mentioned, meaningfulness and feeling valued were important to motivation of the volunteers in this study, which is similar to that of volunteers in other sectors (Toraldo et al., 2019). Similarly, the notion of feeling safe to share concerns and opinions also was an important motivator for volunteers. Prior research indicates that employees exhibit higher levels of engagement and feelings of being valued through training (Rabiul et al., 2021), thus the improvement on volunteer outcomes can similarly be explained. Psychological availability, which largely focuses on the emotional and physical resources, was not. One primary reason for this latter finding is that sport volunteers have limited exposure to training and the tasks itself. As prior scholars suggest, psychological availability is further enhanced career development, job security and rewards (Rabiul et al., 2021), none of which are prevalent in event volunteer settings. It is important to note that these findings are also applicable to sport organizations in general, especially with similar type jobs like part-time work or outsourced event workers (Odio et al., 2018). While this latter type of sport employee differs from volunteers in the matter of remuneration, there are common traits such as shorter time commitments, job functions, and training.

The types of motivators important, and not important, to the current sample are also of note. For example, reward was not a major motivator for volunteers, which could be explained by the type of rewards inherent to the volunteer experience, none of which are monetarily based. However, this is also applicable in areas where sport organizations are limited in resources (Doherty et al., 2022). For instance, scholars suggest that non-monetary benefits from the jobs and tasks themselves are important motivators (Odio et al., 2018), which was found in the present study along with the related meanings to that job. In a broader sense, the notion that meaningfulness is related to work is important, regardless of whether or not someone is volunteering or paid.

The results gleaned from this study also add to the current literature regarding both sport event volunteers and the larger notion of engagement in sport organizations. For instance, research on the motivations of sport volunteers has been examined on several levels, including mega events, small-scale events, and special events (Kim et al., 2018). The current findings support previous sentiment that sport volunteers are motivated by more values-oriented aspects of volunteering, such as love of sport (Bang & Ross, 2009) and purposive (Kim et al., 2018). However, the role extrinsic rewards play in the present study differs with that of other research. For example, Kim et al. (2018) suggested that extrinsic rewards, and the related tangible and material benefits, are valuable motivators for volunteers. However, when considered through the lens of engagement, this sample indicates the opposite.

Similarly, the present study adds to the dearth of literature regarding engagement within sport. While earlier attempts to examine engagement in the sport setting were conducted, the focus was more on the decision to volunteer (e.g., Wicker & Hallman, 2013) and not the notion of engagement as a psychological state operationalized in this study. As mentioned earlier, there is limited scholarship on the role engagement plays in the human resources aspect of sport (Otto et al., 2021; Svensson et al., 2021). Within those studies, engagement antecedents were found to be influential on reported outcomes such as turnover intentions,
psychological well-being, and satisfaction. However, the current project contributes to our understanding of engagement within the sport volunteer sector that demonstrates its influence on motivational factors.

### Practical Implications

Key takeaways can be suggested regarding how sport event managers approach recruiting and training their volunteers. For example, assigning volunteers with meaningful roles to have an impact on the community is important. Furthermore, event managers could address the volunteer reward structure and shift their focus on paring volunteers with positions that are meaningful to them. For example, pre- and post-event surveys to understand what contributed to the event experience would be helpful along with determining specific positions that would foster higher levels of engagement. In terms of recruiting volunteers, event managers can use a more personalized survey to better understand how volunteers would make a more meaningful contribution towards the success of the event. Additionally, fostering of a supportive environment would be beneficial in providing volunteers with a quality experience. Structuring the environment in such a way will enhance volunteers’ levels of engagement and therefore ultimately levels of motivation. For example, event managers could pay attention to the creation of volunteer groups that have a pre-established connection, such as similar age, experience at said event, or students from the same institution.

Considering the retention of sport volunteers is a growing concern (Kappelides & Johnson, 2020), the present study also provides some implications for sport event managers struggling with similar issues. Borrowing from general management literature, engaged employees also exhibit stronger organizational satisfaction and lower turnover intention (Fulmore et al., 2022). As such, the focus of finding ways to train and engage sport event volunteers should have similar effects. For example, sport event managers who use engagement strategies that tie into the love of sport and purposive motivators are creating an atmosphere in which sport volunteers would want to continue (Kappelides & Johnson, 2020). Finally, sport event managers could further provide volunteers with an opportunity to reflect on their experiences and wants regarding meaningful roles in an effort to address the continuous recruitment and retention issues (Wicker, 2017).

### Limitations and Future Research

One limitation of this study stems from the researchers’ decisions to address engagement using Shuck et al. ’s (2017) model and the utilization of three prominent outcome variables in motivation. Further, the methodology employed does not necessarily allow for the generalization of results. Even though a large sample was recruited, this does not necessarily reflect the engagement and motivational levels at other sporting events.

Additionally, it is important to note that the current findings should be explained through the context of sport event volunteers at college football bowl games. Events such as these are more than simply sport events, but they also carry with them ancillary festivities that occur during the week leading up to the bowl game (Williams & Seifreid, 2013). Therefore, while the results regarding engagement levels of sport volunteer and the relationship to motivations are relevant to the present study, different types of events in terms of scale or focus could have differing implications. Additionally, there are ramifications for how sport event managers need to focus on heighten engagement levels, which ultimately impacts levels of motivation.

Future research should examine different motivational aspects of individual volunteers, focusing on how cognitive, emotional, and behavioral engagement influence other motivational outcomes. Also, utilizing a mixed methods approach to collect qualitative data might offer more in-
sight into the studied phenomenon by questioning event organizers. Findings from Coyne and Coyne (2001) revealed one’s motives could change over time. Thus, more research is needed to allow event managers and administrators to make more informed decisions in terms of recruitment and retention approaches, focusing on one’s levels of engagement moving forward.

**Conclusion**

In summary, while there has been extensive research on motivation within the sport volunteer sector, this study contributes to research literature from an engagement perspective applied to motivation as well as practical implications for event managers (Allen & Bartle, 2014).

Employing Shuck et al.’s (2017) engagement scale and relying on Kahn’s (1990) conceptualization of personal engagement, the purpose of this study was to explore how engagement influences motivation among sport volunteers at large sporting events, such as college football bowl games, to develop future training and retention incentives to continually contribute to the successful staging of sporting events. The study suggested specific practical implications for sport event managers to look at to enhance future events and success. Findings demonstrated that the volunteer’s psychological meaningfulness and safety had a significant impact on the motivational outcome variables of love and purposeful motivation through engagement. Understanding that volunteers need to be given meaningful roles along with being able to have an impact on the community allows sport event managers to better identify strategies to ensure the pairing of those. Interestingly, there was no significant relationship with the reward variable, an important finding for event managers to understand and apply for future recruitment and retention strategies as those are on-going challenges (Wicker & Hallmann, 2013). In sum, the focus needs to be on the actual volunteer and what creates a meaningful experience for them.

**References**


Why Engagement Matters


## Appendix A

### Hypothesis Testing: Direct and Indirect Effect

<table>
<thead>
<tr>
<th>Direct Effect</th>
<th>$\beta$</th>
<th>Boot CI 95% L</th>
<th>Boot CI 95% H</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td></td>
<td></td>
<td></td>
<td>0.873</td>
</tr>
<tr>
<td>MEAN</td>
<td>0.746**</td>
<td>0.620</td>
<td>0.873</td>
<td></td>
</tr>
<tr>
<td>SAFE</td>
<td>0.142*</td>
<td>0.002</td>
<td>0.282</td>
<td></td>
</tr>
<tr>
<td>AVAIL</td>
<td>0.132*</td>
<td>0.009</td>
<td>0.256</td>
<td></td>
</tr>
<tr>
<td>Motivation R</td>
<td></td>
<td></td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Engagement</td>
<td>-0.020</td>
<td>-0.108</td>
<td>0.068</td>
<td></td>
</tr>
<tr>
<td>Motivation L</td>
<td></td>
<td></td>
<td></td>
<td>0.124</td>
</tr>
<tr>
<td>Engagement</td>
<td>0.352**</td>
<td>0.195</td>
<td>0.068</td>
<td></td>
</tr>
<tr>
<td>Motivation P</td>
<td></td>
<td></td>
<td></td>
<td>0.326</td>
</tr>
<tr>
<td>Engagement</td>
<td>0.571**</td>
<td>0.195</td>
<td>0.508</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indirect Effect</th>
<th>$\beta$</th>
<th>Boot CI 95% L</th>
<th>Boot CI 95% H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rewards</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN*ENG</td>
<td>-0.015</td>
<td>-0.081</td>
<td>0.051</td>
</tr>
<tr>
<td>SAFE*ENG</td>
<td>-0.003</td>
<td>-0.018</td>
<td>0.012</td>
</tr>
<tr>
<td>AVAIL*ENG</td>
<td>-0.003</td>
<td>-0.015</td>
<td>0.010</td>
</tr>
<tr>
<td>Love</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN*ENG</td>
<td>0.263**</td>
<td>0.142</td>
<td>0.384</td>
</tr>
<tr>
<td>SAFE*ENG</td>
<td>0.050*</td>
<td>0.002</td>
<td>0.098</td>
</tr>
<tr>
<td>AVAIL*ENG</td>
<td>0.047</td>
<td>-0.011</td>
<td>0.104</td>
</tr>
<tr>
<td>Purposive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN*ENG</td>
<td>0.426**</td>
<td>0.260</td>
<td>0.591</td>
</tr>
<tr>
<td>SAFE*ENG</td>
<td>0.081*</td>
<td>0.008</td>
<td>0.154</td>
</tr>
<tr>
<td>AVAIL*ENG</td>
<td>0.076</td>
<td>-0.015</td>
<td>0.166</td>
</tr>
</tbody>
</table>

*Note. MEAN= meaningfulness; SAFE= safety; AVAIL= availability; Motivation R= rewards; Motivation L= love; Motivation P= purposive; ENG= engagement; $\beta$= standardized beta; SE= standard error of the unstandardized beta; Boot CI L 95% CI= low end of 95% bootstrap confidence interval; Boot CI H 95% CI= high end of 95% bootstrap confidence interval (1,000 bootstrap resamples). *$p<.05$, **$p<.01$.**