Perceived weight-related victimization and physical activity outcomes among adolescents with overweight and obesity: Indirect role of perceived physical abilities and fear of enacted stigma

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Abstract

Objectives: Recently, victimization has been shown to be negatively related to physical activity among adolescents with overweight or obesity. However, research on this relation remains scarce and plagued by multiple limitations. The objectives of this study were twofold. First, we wanted to replicate and extend previous research among adolescents with overweight and obesity by examining the relations between perceived weight-related victimization in school-based physical activity and students’ perceived physical education performance or involvement in physical activity outside school. Second, we wanted to investigate the indirect role of perceived physical abilities and fear of enacted stigma on these relations.

Design: A cross-sectional design was used.

Method: A sample of 144 secondary school students with overweight and obesity participated in this study.

Results: Perceived physical abilities were found to play a significant and negative indirect role in the relations between perceived weight-related victimization and students’ perceived physical education performance or involvement in physical activity outside school. When sex and age were controlled for, these relations remained significant. The mediating role of fear of enacted stigma was non-significant.

Conclusions: Schools should implement policies that do not tolerate weight-related victimization of students and that promote a safe and positive climate during physical activities. Moreover, a personalized approach providing choices and encouragements would help youth gain confidence in their abilities to perform or engage in physical activities.

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The beneficial role of physical activity (including exercise and sports) as a key component of weight control and weight loss efforts among adolescents with overweight or obesity is relatively well documented (for a recent meta-analysis see Kelley & Kelley, 2013). However, regular involvement in physical activity (PA) can be challenging, and a significant proportion of adolescents with overweight or obesity tend to remain chronically physically inactive (Schmalz, 2010). To remedy this situation, it seems relevant to identify the psychological mechanisms underlying involvement in PA among adolescents with overweight or obesity (for a review see Stankov, Olds, & Cargo, 2012). Accordingly, past research has highlighted a variety of individual (e.g., motivation, physical abilities), interpersonal (e.g., social support, family composition), and environmental (e.g., resources, coaching practices) factors that play a role in PA involvement in this population (Stankov et al., 2012).
1. Perceived weight-related victimization and PA

One of the factors likely to have a significant role in PA involvement among adolescents with overweight or obesity appears to be victimization (e.g., Puhl & Suh, 2015; Stankov et al., 2012), which is defined as "... overt (e.g., Pushing, hitting, kicking) or relational (e.g., gossiping, teasing, ignoring, excluding) forms of aggression perpetrated by an individual or a group of peers" (Gray, Kahhan, & Janice, 2009, p. 721). Youth with overweight or obesity may be even more likely to experience victimization related to their weight or body size (i.e., weight-related victimization, or WRV) in the PA context, where their bodies and physical abilities are publicly displayed, scrutinized, compared, criticized, and judged (Pickett & Cunningham, 2017; Rukavina & Doolittle, 2016; Rukavina & Li, 2008). Exposure to WRV while involved in PA, especially when the objective of this involvement is weight control or weight loss, may be particularly harmful for youth with overweight or obesity. Indeed, it may lead them to participate less in PA for fear of further victimization (Li & Rukavina, 2012; Rukavina & Doolittle, 2016; Rukavina & Li, 2008; Stankov et al., 2012).

Moreover, because a key objective of school-based PA is to teach students the skills and knowledge needed to have a physically active lifestyle across their lifespan (Rukavina & Doolittle, 2016), WRV in this context is likely to have a counterproductive effect. It may discourage youth with overweight or obesity from participating in PA outside school and contribute to maintaining or exacerbating their sedentary lifestyle in the long term (Hayden-Wade et al., 2005; Rukavina & Doolittle, 2016; Rukavina & Li, 2008). Unfortunately, research has shown that victimization is highly prevalent in school settings (Gray et al., 2009; Puhl, 2011), particularly during school-based PA, including physical education (PE) classes (Bauer, Yang, & Austin, 2004; Cardinal, Whitney, Narimatsu, Hubert, & Souza, 2014; Ehler, Marston, Fontana, & Waldron, 2015; Fox & Edmunds, 2000; Li & Rukavina, 2012).

So far, three studies have shown that high levels of perceived victimization are significantly related to lower levels of involvement in PA (Gray, Janice, Ingerski, & Silverstein, 2008; Jensen, Cushing, & Elledge, 2014; Storch et al., 2007). A fourth study showed that they are related to a higher preference for sedentary activities (Hayden-Wade et al., 2005). Although relevant, these results should be viewed as preliminary, given certain limitations. Indeed, except for Hayden-Wade et al. (2005), none of the previous studies considered perceived WRV. It is thus unknown whether weight was the main reason for the victimization. In a related manner, only Jensen et al. (2014) examined perceived victimization occurring specifically in the PA context. In the other studies, researchers relied on global (non-specific) measures of perceived victimization (Gray et al., 2008; Hayden-Wade et al., 2005; Storch et al., 2007). Finally, attempts have been made in two studies, focusing on generic victimization rather than WRV, to understand the mechanisms explaining the relation between victimization and PA (Gray et al., 2008; Storch et al., 2007). First, Storch et al. (2007) showed that youth with overweight and obesity exposed to high levels of peer victimization tend to present higher levels of psychological distress (depression symptoms and loneliness) and in turn to be less physically active. Second, Gray et al. (2008) showed that perceived peer victimization led to a greater tendency to be less physically active. This relation involved the action of numerous psychological processes, such as increased likelihood of becoming more self-conscious about being physically active, concerns over not being selected by schoolmates to be on a team, or having fewer opportunities and less support to participate in PA (Gray et al., 2008).

The present study was designed to address these gaps by focusing on the outcomes of perceived WRV, as it occurs in the school-based PA context, on levels of perceived PE performance and PA participation outside of school of adolescents with overweight and obesity. Furthermore, this study was designed to also improve our understanding of the mechanisms involved in the relations between WRV and these PA-related outcomes.

2. Psychological mediators of the relations between perceived WRV and PA outcomes

2.1. Perceived physical abilities

Despite the lack of research focusing on psychological mechanisms that may mediate the relations between WRV and PA, theory and research related to PA involvement and performance suggest some likely variables. Among the possible significant mediators are youth's levels of perceived physical abilities (Fox & Corbin, 1989; Marsh, Richards, Johnson, Roche, & Tremayne, 1994), defined as "self-perceptions of their skills and interest in sports, games, and physical activities" (Marsh, Ellis, Parada, Richards, & Heuboeck, 2005, p. 102).

First, some scholars have reported a significant negative relation between exposure to WRV and the self-concept among children and adolescents (e.g., Eisenberg, Neumark-Sztainer, Haines, & Wall, 2006; Eisenberg, Neumark-Sztainer, & Story, 2003). The relation between WRV and perceived physical abilities has been examined in a sample of adolescents (Greenleaf, Petrie, & Martin, 2014). The findings show that adolescents exposed to WRV tend to present lower self-conceptions of their physical abilities. This result could be explained by the fact that WRV targets physical characteristics specifically (Li & Rukavina, 2012; Rukavina & Doolittle, 2016; Rukavina & Li, 2008). WRV is therefore likely to lead exposed adolescents with overweight or obesity to internalize these negative messages about their physical characteristics into the self-representations of their physical abilities.

Second, competence motivation theory (Harter, 1978; Klint & Weiss, 1987; Weiss & Ebbeck, 1996) adds that perceived physical abilities represent a key predictor of PA participation. More precisely, proponents of this theory suggest that people are fundamentally motivated to be competent. As such, they will tend to become involved in areas where they feel most competent and most motivated to improve, and will tend to avoid areas that they see as more challenging and less appealing. Competence motivation theory thus clearly positions perceived physical abilities as a key driver of PA involvement.

Third, the self-enhancement model (Calzyn & Kenny, 1977; Marsh & Craven, 2006; Marsh, 1990a) posits perceived physical abilities as a significant predictor of PA performance. More precisely, proponents of this theory note that people who have high levels of perceived physical abilities are "... more likely to pursue and achieve desirable outcomes in that domain than individuals who do not feel positively about themselves" (Marsh, Chanal, & Sarrazin, 2006, p. 101; see also; Marsh, Gerlach, Trautwein, Lüdtke, & Brettschneider, 2007; Marsh, Papaioannou, & Theodorakis, 2006; Marsh & Perry, 2005). According to Sonstroem (1998), this relation may be explained by the fact that individuals tend to act in accordance with their self-perceptions. Therefore, adolescents with a positive view of their physical abilities should tend to perform physically in ways that are consistent with their perception. They would achieve higher levels of PA performance, likely due to more engagement during PA practice (Valentine, Dubois, & Cooper, 2004). Conversely, adolescents with more negative views of their physical abilities should be less likely to be engaged during PA practice, and should thus have lower levels of PA performance.
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