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RUNNING HEAD: Multiple group memberships, health, and performance

**Multiple Group Memberships Promote Health and Performance Following Pathway
Transitions in Junior Elite Cricket**

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Abstract

Coping well with transitions (e.g., progressing from youth to senior level, transferring between clubs, retiring from sport) is an integral part of elite athletes' lives—poor adjustment can lead to dropout, poor performance, and even alcohol and drug abuse. Recent research from the wider social psychology literature has demonstrated that people's *social group memberships* may represent a key resource upon which they can draw when navigating various transitions. In this study, conducted in conjunction with the England and Wales Cricket Board, we collected data over two years, in order to investigate the importance of group memberships for the health and performance of 257 young cricketers ($M_{\text{age}}=15.53$) transitioning into high-performance pathways. Cricketers who belonged to more pre-transition groups, and who belonged to a greater number of new groups after the transition, demonstrated greater post-transition health and performance. The continuity of cricketers' group memberships across the transition also had a positive but less pronounced impact on their health. Finally, there was also evidence that group membership effects were partly dependent on the time since transition, with effects more prominent soon after the transition than later. Results are timely, given recent research and applied interest in athlete development pathways, and the mental health of those on such pathways. They also have important implications for the design—and continued monitoring—of elite-performance pathways. Indeed, the England and Wales Cricket Board has already implemented policy changes based upon the present study's findings.

Key Words: social groups; health; performance; talent pathways

Highlights

- Group memberships were linked with greater post-transition health and performance.
- Some effects were more prominent soon after the transition than later.
- Social groups may be a key resource for cricketers navigating pathway transitions.

Multiple Group Memberships Promote Health and Performance Following Pathway Transitions in Junior Elite Cricket

Understanding the stages of development, challenges, and potential roadblocks that young athletes must navigate on their path to elite sport has been a focus of research for several decades (Collins et al., 2019; Rees et al., 2016). This research has increasingly recognized that within-career transitions play a major role in the developing athlete's career, and that effectively surmounting these transitions has important performance-related, as well as psychosocial implications (Stambulova et al., 2020). For example, evidence suggests that poor adjustment to transitions can lead to poorer performance, dropout, and even alcohol and drug abuse (e.g., see Finn & McKenna, 2010; Stambulova, 2017). Understanding the factors that predict young athletes' adaptive adjustment to transitions is thus an important focus for research. In the present study, we used a design with multiple time points to examine the experiences of junior elite cricketers transitioning into and through a talent development pathway. In particular, building on promising recent evidence from transitions research outside sport, we focused on the role that young athletes' *social group memberships* played in supporting them to successfully navigate this early career transition.

Predicting Successful Sporting Transitions

Transitions have been broadly defined as "an event or non-event [which] results in a change in assumptions about oneself and the world and thus requires a corresponding change in one's behavior and relationships" (Schlossberg, 1981, p.5). Transitions create a set of demands—which are usually appraised as stressors—and thus require adequate coping processes (Stambulova, 2017). Elite athletes' lives are littered with such transitions. These include progressing from youth to senior sport (Pehrson et al., 2017; Stambulova et al., 2017), entering elite programs (Schinke et al., 2015), inter-club trades (Gordon & Lavalley, 2012), severe injuries (Ivarsson et al., 2018; Samuel et al., 2015), and retiring from sport (Park et al., 2013; Sanders & Stevinson, 2017). Indeed, reflecting their considerable breadth, three overarching categories of sporting transitions have been proposed: normative

(expected), non-normative (unexpected), and quasi-normative (expected for a particular category of athletes—such as cultural transitions in the career of a transnational athlete; see Stambulova et al., 2020).

Evidence suggests that numerous factors influence how successfully athletes navigate transitions. Most commonly, research seeking to identify these factors has, with some success, concentrated on individual-level and demographic variables and the characteristics of the transition itself. For example, research examining sporting retirement—the most extensively studied sporting transition—has consistently shown that athletes navigate this transition more successfully (e.g., report better adaptation to the transition and greater post-transition well-being) if they (a) are more educated and have maintained a dual career (e.g., see Tshube & Feltz, 2015; Torregrosa et al., 2015; see also Stambulova & Wylleman, 2019), and (b) plan for the transition and engage in it voluntarily (e.g., see Kuettel et al., 2017; Park et al., 2013).

Recent research further indicates, however, that a comprehensive understanding of the factors that predict how successfully athletes navigate transitions includes a broader range of factors, including *social* factors. Along these lines, several qualitative studies have highlighted the value of social support (from family, friends, coaches, and teammates), particularly in the context of the transition from youth to senior sport (e.g., Morris et al., 2017; Pehrson et al., 2017; Sanders & Winter, 2016). Indeed, Pummell and Lavallee (2019) provided initial evidence for the efficacy of an intervention focused on providing informational support for young tennis players attempting to transition from an elite national junior program to the senior international tour. Using a mixed methods approach, these researchers found that the intervention—which included informational sessions and incorporated videos of senior players talking about their experiences—led to an increase in participants' knowledge of the transition and their readiness to cope with it.

There is also considerable evidence that social factors play an important role in helping people navigate life transitions more generally (i.e., outside sport). For instance, research has shown that people's health following retirement from the workforce is typically

greater (a) if they possess high quality and supportive relationships (e.g., see Asebedo & Seay, 2014) and, of particular relevance to the present study, (b) if they possess more *social group memberships* (e.g., see Haslam, Lam, et al., 2018; Steffens et al., 2016; Stevens et al., 2021).

Social Group Memberships, Health, Performance, and Transitions

In the last decade, the potential for social group memberships to confer benefits—particularly *health*-related benefits—has been the focus of a considerable body of research. Observational studies across various contexts (e.g., choirs, exercise groups, creative writing groups) have found consistent evidence that groups can positively impact numerous indicators of good health (e.g., self-esteem, life satisfaction, and quality of life), and protect people from experiencing poor health (e.g., by buffering against, and helping to alleviate the symptoms of, depression; for reviews see Haslam, Jetten, et al., 2018; Jetten et al., 2017). Indeed, speaking to the causal impact of group memberships on health, interventions focused on developing people’s social networks—for example by increasing their group memberships—have been shown to reduce participants’ depression and anxiety and increase their life satisfaction and self-esteem (among other positive outcomes; Haslam et al., 2016, 2019). At the same time, research has pointed to the importance of social groups for performance (Rees et al., 2015; Slater et al., 2020; Salvatore et al., 2020), with empirical research indicating that drawing on one’s social group memberships can facilitate improved heart rate recovery in athletes (Jones & Jetten, 2011) and persistence in sporting tasks (Green et al., 2018).

A primary reason researchers have suggested that group memberships can confer such benefits is because, when people internalize a given group membership into their sense of self (i.e., develop a *social identity* as a group member; Tajfel & Turner, 1979), this group membership becomes a *resource* upon which they can draw (see Jetten et al., 2014). Along these lines, research has shown that group memberships can (a) provide important tangible resources (e.g., a source of social support; see Haslam et al., 2005), and (b) serve as psychological resources even in the absence of direct group contact. For example,

across two experiments, Green et al. (2018) examined whether group memberships can promote resilience in the face of negative feedback. In both studies, participants were divided into three conditions: two experimental conditions, where participants were asked to reflect on, and describe the importance of, either one or five of their group memberships, and a control condition, where participants did not complete a group memberships manipulation. Following this manipulation (or non-manipulation) all participants completed six attempts at a golf-putting task, and were then told that their performance on this task placed them in the bottom 30% of participants in the experiment so far. Next, participants were given a two-minute free period, in which they could either practice the task, rest, or engage in other activities. An analysis of participants' behaviors during this free period showed that, in both studies, participants in the experimental conditions made more practice attempts (i.e., demonstrated greater resilience following the negative feedback) than participants in the control condition. Moreover, in Study 2, the *performance* of participants in the group membership conditions on a final trial (that took place after the free period) also improved to a greater extent than the performance of participants in the control group.

It should be noted that other factors besides the overall number of groups to which people belong (or are asked to reflect on) may also play a role in shaping their benefits. For example, White et al. (2021) found that the resilience of Royal Air Force (i.e., military) personnel was supported by belonging to a greater number of "positive" groups, while other research has pointed to the importance of people's group memberships being compatible with each other (e.g., Iyer et al., 2009). Nevertheless, the above findings contribute to a growing body of research suggesting that group memberships can serve as health- and performance-enhancing resources in a range of situations (e.g., see also Cruwys et al., 2015; Jones & Jetten, 2011). Along these lines, evidence suggests that group memberships are particularly important in the context of transitions. In this regard, possessing a greater number of group memberships has been shown to predict various positive psychological and physical health outcomes following transitions including retirement (Haslam, Lam, et al., 2018; Stevens et al., 2021), becoming a mother (Seymour-Smith et al., 2017), and beginning

university (Praharso et al., 2016). Indeed, the importance of maintaining existing group memberships, and ideally gaining new ones, for people undergoing transitions is emphasized in the Social Identity Model of Identity Change (SIMIC; Haslam et al., 2019), which recognizes the threat that transitions pose to people's group memberships and associated social identities, and argues that managing these changes is central to effective adjustment.

Group memberships may also have a key role to play in sporting transitions. Indeed, many sporting transitions, such as moving clubs, retiring from sport, and, of particular relevance in the present context, transitioning into an elite talent development pathway, have clear potential to place athletes' group memberships under critical threat (e.g., through reduced contact with existing groups due to geographical relocation or a change to daily routine). To date, however, no research has examined the role of group memberships in sporting transitions.

The Present Research

The present study sought to address this important gap (see O'Halloran & Haslam, 2020), and provide a comprehensive examination of the role group memberships might play in promoting successful adjustment to sporting transitions. To this end, we adopted a nuanced approach to testing the impact of group memberships. Specifically, we separately examined the importance of the number of group memberships participants possessed *prior* to a transition into an elite pathway, as well as the number they *maintained* during the transition and *gained* following the transition. Moreover, we examined the relationship between each of these predictors and both participants' post-transition *health* and *performance*. Through this novel focus, and by taking into account the effects of these variables across time (which has rarely been done in sporting transitions research), we sought to make a unique contribution to the sporting transitions literature.

In line with the aforementioned evidence from outside sport (and SIMIC's key hypotheses), we hypothesized that the number of group memberships young athletes possessed prior to their transition onto a talent development pathway, as well as the number

they maintained during, and gained following, the transition would be associated with greater post-transition health (H1) and performance (H2). With a view to providing specific recommendations for key stakeholders (e.g., governing bodies) in relation to the key periods for intervention, a secondary aim was to investigate whether the relationships between group memberships and our outcomes of interest differed as a function of time since the transition. However, given the absence of previous research in this area, we made no *a priori* hypotheses in this regard.

Method

Participants and Procedure

Participants were 257 cricket players (223 male) who volunteered to participate in the study. The cricketers were recruited from the England and Wales Cricket Board's England Development Program, Cricket Talent Testing events, and County Academies. In line with the performance standard levels noted in Rees et al. (2016, p. 1042), we regard this sample as primarily junior elite, denoting "junior national to junior international level" cricketers. At baseline (i.e., when they completed their first questionnaire), players were an average of 15.53 years old ($SD=1.34$). They were recruited an average of 12.10 months ($SD=11.59$) after their transition onto the England and Wales Cricket Board pathway. The study's procedures received ethics approval from the second author's institutional human research ethics board.

A member of the research team attended pathway training sessions to invite cricketers to participate in the research. The cricketers were asked to read an information sheet and assured through this, and also verbally, that their participation would not affect their participation in the England and Wales Cricket Board pathway in any way and that their individual responses would remain confidential. In particular, the cricketers were told their answers would not be shared with anyone at the England and Wales Cricket Board, including coaches, support staff, or other players, but rather that we would only pass on average responses from the entire study sample on completion of data collection. The cricketers were also told that they could withdraw from the study at any time without giving a

reason, and without any disadvantage to themselves. Those cricketers who agreed to participate on this basis completed an informed consent form (as did the parents or guardians of those under 18 years of age), and a baseline questionnaire. Each cricketer's coach was also asked to complete a short questionnaire about the cricketer's performance at this point (see below).

Having agreed to participate in the study, the cricketers were invited to repeat the questionnaire at later time points over a follow-up period of two years—the window of opportunity for data collection offered to the research team by the England and Wales Cricket Board. Each time we attended training sessions all players present were invited to complete a questionnaire. This included new program members who had not previously been recruited, meaning that, at the same time, there were participants completing their first questionnaire, while others were completing their second (or third, fourth, or fifth). Each time a player completed a questionnaire, their coach was also asked to complete a questionnaire about their performance. The variation in the average time between participants completing, for example, their first and second questionnaires versus their second and third questionnaires (see below) thus reflects two things. First, the specific occasions on which we visited performance pathway sessions to undertake data collection were dictated by the England and Wales Cricket Board and fell in line with practical considerations surrounding the timing of training sessions. As such, data collection dates were not evenly spaced. Second, our approach meant that while, for example, one participant may have had a gap of 8 months between completing their first and second questionnaires, another may have had a gap of 15 months (because they were not present at the training session when some players completed their second questionnaire, but were present at the training session when some players completed their third questionnaire, and thus completed their second questionnaire then).

Over the two-year study period, 257 cricketers completed at least one questionnaire; a further 123 cricketers completed two questionnaires; 54 cricketers completed three questionnaires; 19 cricketers completed four questionnaires; and 3 cricketers completed five

questionnaires, resulting in a total of 456 unique responses (observations). The average time between completing the first and second questionnaires was 8.02 months ($SD = 5.21$); the average time between completing the second and third questionnaires was 7.13 months ($SD = 4.51$); the average time between completing the third and fourth questionnaires was 5.11 months ($SD = 3.40$); and the average time between completing the fourth and fifth questionnaires was 2.00 months ($SD = .00$). Sample attrition was for the most part due to players leaving the pathway as a result of age limits, injury, or de-selection.

Measures

Group Memberships

In line with previous research (Haslam et al., 2008), group memberships scores were obtained by asking participants to indicate the groups to which they belonged. Specifically, participants were told, “a group is anything that you belong to with other people. For example, you could belong to groups through work, through school, through your hobbies and interests, through your social life, or through sports. All of us belong to many groups in our life, but only some of these groups are important to us. We want to know about the groups that have been and/or are important to you.”

Participants indicated the groups they belonged to (a) before they transitioned onto their pathway (hereafter termed *pre-transition groups*), and (b) after transitioning onto the pathway. This latter measure was separated as a function of whether the groups listed were maintained across the transition, or were new (unique) groups joined after the transition, yielding a *continuity of groups* measure and a *new groups* measure. A total score for each of these three measures was obtained by summing the number of groups that fitted into each category.

Health

Life Satisfaction. This was measured using the 5-item Satisfaction With Life Scale (Diener et al., 1985). Answers to the five items (e.g., “I am satisfied with my life”) were provided on seven-point scales from 1 (strongly disagree) to 7 (strongly agree; $\alpha = .82$).

Positive and Negative Affect. These were measured using the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). The PANAS consists of ten items of positive affect ($\alpha = .82$): interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active; and ten items of negative affect ($\alpha = .81$): distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid. For all items, participants rated the extent to which they agreed with each statement on five-point scales from 1 (very slightly or not at all) to 5 (extremely).

Self-Esteem. This was measured using Rosenberg's (1965) Self-Esteem Scale. Participants indicated the extent to which they agreed with each of the ten items (e.g., "I feel I have a number of good qualities) on five-point scales from 1 (strongly disagree) to 5 (strongly agree; $\alpha = .83$).

Performance

Performance was assessed using subjective ratings (see below). Such assessment is commonplace, providing a reflective measure of athletes' performances and enabling comparisons across cricketers at different ages and performance levels (Arnold et al., 2018). It is also less prone to influence from environmental factors, such as opponent skill level.

Player-Rated Subjective Performance. This was assessed using a six-item measure ($\alpha = .77$): "Do you think you have adjusted well to your program¹?", "Are you satisfied with your performance since becoming a member of your program?", "Are you performing well right now?", "Has your performance been consistently better than it was before joining your program?", "Has your performance been consistently worse than it was before joining your program?" (reverse-scored), and "Overall since joining your program, has your performance been better than other members of your program?" All items were accompanied by seven-point scales (1 = strong no, 7 = strong yes).

Coach-Rated Subjective Performance. These were assessed with three items ($\alpha = .87$): "Do you think the player has adjusted well to the program environment?", "Since participating in the program, has the player been performing well?", and "Do you think the

player has the potential to perform well in the future?" All items were accompanied by seven-point scales (1 = strong no, 7 = strong yes).

Statistical Analysis

To examine our hypotheses (to determine whether health and performance differed dependent on players' group memberships), we employed a multi-level modelling (MLM) framework using the linear mixed models option in IBM SPSS version 28.0.0 (IBM, Armonk, NY, USA; see IBM, n.d.). Multi-level modelling is ideal for the analysis of the current study's data, because it can both account for the nested nature of the data (up to five separate sets of data collected within participants) and is able to effectively model the effects of time in instances where the amount of data available across participants is unequal. Indeed, data collection points can be irregularly spaced, their number and spacing can differ across participants, each participant can have his or her own data collection schedule, and the number of data points can differ from person to person, and even those with just one data point (e.g., those who only provide baseline data) can be used—these are referred to as unbalanced designs (Singer & Willett, 2003). These features—varying number of responses and varying time between them—are inherent in the current data set (as noted below under *Descriptives*). As has been noted (see Kumle et al., 2021), until recently there had been only sparse guidance for psychologists regarding estimating power when employing linear mixed models, and indeed such power analysis is "still a largely uncharted terrain containing many open and unresolved issues" (p. 3). With no existing data available (using the current design) from which to plan power, our approach to and justification for power and sample size rested on the assumption that we planned to measure (almost) the entire population available within resource constraints (i.e., all existing and new cricketers on the England and Wales Cricket Board pathway within the two-year window for data collection) (see Lakens, 2021).

When modelling the health and performance outcomes, each model used random intercepts and controlled for player age, with time since transition (our "time" variable, assessed as months since the transition) and the group membership variables entered into

the models as fixed effects. Because the present study was also interested in whether the effects of group memberships on health and performance might differ as a function of time since transition, interaction terms between the group membership variables and time since transition were also entered into the models.

Results

Descriptives

Upon completion of data entry, a random sample of 10% of the questionnaires were checked for accuracy of data entry, and data were checked for outliers and indices of non-normality, of which there were none. In total, across the 456 observations, there were missing data for 12 items within the pre-transition groups variable, the post-transition groups variable (which was used to compute continuity of groups and new groups), and the coach performance assessment. There were no missing data for the four outcome variables. Thus, across all our variables, $\leq 2\%$ of the data were missing. The missing items meant that, for all “Linear Mixed Modeling” analyses (see below), 449 observations were included (apart from when *Coach-Rated Subjective Performance* was the outcome, when there were 446 observations).

Group membership listings (at the first data collection point—i.e., including the data from 256 cricketers—i.e., with one missing data point) revealed that players belonged to an average of 6.06 groups ($SD = 2.61$, range: 1-15) before joining their pathway phase, maintained (with $n = 255$) an average of 4.03 ($SD = 2.21$, range: 0-11) groups across the transition, and joined (with $n = 255$) an average of 1.78 new groups ($SD = 1.24$, range: 1-8) after transition. Sporting groups (e.g., belonging to school sports teams, sports clubs, gym membership) were the most frequently listed group category ($M = 4.80$, $SD = 2.32$, range: 1-13), followed by social relationship groups ($M = 2.09$, $SD = 1.72$, range: 0-8), school/college/university groups ($M = .58$, $SD = .89$, range: 0-7), work groups ($M = .25$, $SD = .67$, range: 0-5), and hobbies and interest-related groups ($M = .19$, $SD = .47$, range: 0-2). At the first data collection point (with all 257 cricketers), means and standard deviations for each of the outcome variables were as follows: life satisfaction ($M = 5.33$, $SD = .84$), positive

affect ($M = 4.15$, $SD = .46$), negative affect ($M = 1.77$, $SD = .54$), self-esteem ($M = 3.21$, $SD = .42$), player-rated subjective performance ($M = 4.77$, $SD = .92$), and coach-rated subjective performance ($M = 5.27$, $SD = .97$).

Linear Mixed Modeling

As noted above, in the analyses that follow, *pre-transition groups* refers to the number of groups cricketers belonged to before joining the pathway phase, *continuity of groups* refers to the number of groups cricketers maintained across the transition, and *new groups* refers to the number of new groups cricketers had acquired since joining the pathway phase. Results (see Table 1) demonstrated significant main effects of group memberships on health and performance, as well as significant interactive effects of group memberships and time since transition.

H1 — Group Memberships and Health

In relation to life satisfaction, there were significant main effects (but no interactive effects with time since transition) of pre-transition groups, $b = .085$ (.021, .149), $p = .009$, continuity of groups, $b = .080$ (.003, .156), $p = .041$, and new groups, $b = .199$ (.091, .306), $p < .001$. That is, greater reported numbers of group memberships were associated with greater reported life satisfaction but the benefits of more group memberships for life satisfaction did not appear to vary over time.

In relation to positive affect, there were significant main effects of pre-transition groups, $b = .047$ (.013, .081), $p = .007$, and new groups, $b = .104$, (.047, .161), $p < .001$, such that greater reported numbers of group memberships were associated with greater reported positive affect. There was also a significant interaction between new groups and time since transition, $b = -.004$ (-.007, -.001), $p = .010$. As can be seen (Figure 1), the positive association between new groups and positive affect appears to be prominent within the earlier phase of the transition, and this effect attenuates over time.

In relation to negative affect, there were no significant main or interactive effects.

In relation to self-esteem, there were no main effects. There was, however, a significant interaction between new groups and time since transition, $b = -.003$ (-.005, -.000),

$p = .035$. As can be seen (Figure 2), the positive association between new groups and self-esteem appears to be prominent within the earlier phase of the transition, and this effect attenuates over time.

H2 — Group Memberships and Performance

There were significant main effects of pre-transition groups on player-rated performance, $b = .105$ (.052, .159), $p < .001$, and coach-rated performance, $b = .108$ (.036, .181), $p = .004$, as well as a significant main effect of new groups on coach-rated performance, $b = .161$ (.037, .286), $p = .011$, with greater reported numbers of group memberships associated with greater reported performance. There was also a significant interaction between pre-transition groups and time since transition on player-rated performance, $b = -.003$ (-.006, -.001), $p = .017$. As can be seen (Figure 3), the positive association between pre-transition groups and performance appears to be prominent within the earlier phase of the transition, and this effect attenuates over time.

Discussion

The purpose of the present research was to examine the role group memberships play in promoting successful adjustment to sporting transitions. Our hypotheses were that the number of group memberships young cricketers possessed prior to their transition onto a talent development pathway, as well as the number they maintained during, and gained following, the transition would be associated with their greater post-transition health (H1) and performance (H2). A secondary aim was to investigate whether these relationships might differ as a function of time since the transition. Our results provide some support for each hypothesis. In terms of effects on health, pre-transition group memberships, continuity of group memberships, and new group memberships were all associated with greater life satisfaction, with these relationships unaffected by time since the transition. Associations with positive affect and self-esteem were, however, more nuanced. That is, although pre-transition group memberships were associated with greater positive affect, there were additionally associations between new group memberships and positive affect and self-esteem that appeared more time-dependent. Specifically, the positive effects of new group

memberships in relation to both positive affect and self-esteem appeared strongest closer to the transition, with these effects becoming weaker over time. There were no effects in relation to negative affect. In terms of relationships with player-rated subjective performance, only pre-transition group memberships appeared important (i.e., were associated with greater performance). This effect appeared time-dependent, however, with the effect of pre-transition group memberships appearing to be more prominent closer to the transition, and attenuating over time. In relation to coach-rated performance, both pre-transition group memberships and new group memberships were associated with greater performance, with these relationships unaffected by time since the transition.

Taken together, these results implicate pre-transition groups (and perhaps to a lesser extent new groups) as being particularly important for performance during these cricketers' pathway transitions, with new group memberships in particular (and perhaps to a lesser extent pre-transition groups) being important for their health. Further, results suggest that these effects may be particularly prominent in the (relatively) early phase of the post-transition period. As such, the present research provides empirical evidence to support recent claims that group memberships may have beneficial effects after sporting transitions (O'Halloran & Haslam, 2020). Indeed, in line with SIMIC (Haslam et al., 2019), our results indicate that, for our sample of young cricketers undergoing a pathway transition, the number of groups players possessed before, and gained following the transition were particularly important (with some minor evidence for the role of continuity of groups). In short, our results suggest that group memberships appear to provide a platform for helping cricketers to thrive (Brown et al., 2017) and successfully adjust to pathway transitions.

This study's findings thus further contribute to research pointing to the potential for group memberships to act as health and performance enhancing resources (Cruwys et al., 2015; Green et al., 2018; Jones & Jetten, 2011), and support people's health in the context of life transitions (for a review, see Haslam et al., 2021). More importantly, perhaps, they provide evidence for a novel predictor of athletes' successful adjustment to *sporting* transitions (Stambulova et al., 2020), complementing research examining the various

individual and social resources which are thought to aid athletes at these critical points (e.g., see Pummell & Lavallee 2019; Stambulova & Wylleman, 2019).

Applied Implications

The fact that possessing a greater number of group memberships was associated with greater post-transition health and performance suggests that it might be valuable to profile athletes' group memberships as part of understanding athlete development within sporting academies. At the very least, taking stock of evidence such as from the present study (and others) would serve to help coaches, performance directors, and National Governing Organizations design talent development pathways in ways that minimize potential pitfalls for young athletes. By necessity, these programs often take these athletes away from their normal environment (and potentially their well-developed group memberships), leaving some vulnerable to the sense of isolation that can ensue, and increasing the risk of ill-health and dropout. As we noted above, group memberships may serve as a resource from which to draw (Jetten et al., 2014), even in the absence of direct contact with those groups (Green et al., 2018). Thus, we would suggest that, as part of their normal (initial and on-going) case conferencing and profiling procedures, academies ask athletes about their group memberships—in particular, about the groups to which they belonged before entering a new pathway phase, and those they have since joined. This could help identify athletes who may be at greater risk of experiencing challenges to their health and performance, and thus enable appropriate support to be targeted at those individuals.

Strengths, Limitations and Future Research

By examining a novel predictor—social group memberships—the present research makes a substantial contribution to the current evidence base pertaining to the factors that affect how successfully athletes navigate sporting transitions. Further key strengths of the study include (a) its high-performance (junior elite) real-world sample (who were drawn from a naturalistic setting) and (b) the modeling of time (since the transition) with multiple data points (which gives us greater confidence about the relationships between group

memberships and positive health and performance outcomes in the context of sporting transitions than would have been afforded had data only been collected at a single time point). It is important to note, however, that participants did not complete the same number of questionnaires, and there was large variation in the intervals between participants completing follow-up questionnaires. It is also important to note that, despite the strengths of the present study's design, it still cannot definitively unpick the causal nature of relationships (as an experimental approach could). Indeed, one of the strengths of the present study's approach may also be its key limitation—its observational (self-report) nature, which leaves it open to problems of self-report, such as negative affectivity and social desirability. Of course, subjective reports of health are commonplace in the literature (e.g., subjective well-being explicitly focuses on subjective evaluations of life satisfaction, and positive and negative affect: Lucas, 2018), as are subjective reports of athletic performance. Indeed, when measuring athletic performance in sports (such as cricket) in which performance cannot simply be determined objectively through a time or distance, subjective measures of performance are commonplace (e.g., see Arnold et al., 2017, 2018; Pellizzari et al., 2011) and arguably most appropriate (Gershgoren et al., 2021).

One obvious avenue for future research would be to investigate the role that the *quality* of athletes' group memberships play in the context of the present study's focal relationships. Researchers (e.g., Haslam et al., 2012) have suggested that this aspect of group memberships may be important for determining whether groups are able to support a person's needs. For example, athletes may hold few group memberships, but obtain adequate support from those that they do possess. Thus, athletes who do not belong to many groups (and who thus appear to be lacking in necessary group memberships) might in fact feel that those few groups meet their health and performance needs. Any profiling system should take this issue of quality into account, while attempting to identify athletes who *might* be at potential risk of adjustment problems due to belonging to relatively fewer groups.

Building on the above, we should note that we did not follow up those cricketers who left the talent pathway during data collection. As has been noted, national governing bodies should, where possible, seek to profile and monitor those who leave talent pathways (e.g., via drop out or de-selection), not least for their potential for re-selection at a later date (Rees et al., 2016). As well as an applied issue, this would seem a potentially fruitful avenue for future research—given the importance of social groups for health and performance, how do those cricketers fare when they leave the talent pathway and leave behind the new group memberships they have developed?

Finally, we note that caution should be exercised in generalizing the results of this study to different sporting transitions and to differing cultures (Samuel et al., 2020; Ungruhe & Agergaard, 2020). There may be something specific to the sport of cricket, to the England and Wales Cricket Board, and/or to players and coaches within this particular national team set-up. The above said, we believe the present research serves to highlight the importance of sporting transitions research continuing to broaden its focus beyond the individual characteristics of athletes—in particular to examine how athletes' social resources affect their capacity to navigate transitions successfully. Our results suggest that such an approach might be a fruitful route to enhancing both athletes' health and performance during the trying times of within-career transitions.

Footnotes

¹ We used the term “program” rather than “pathway” in asking participants to describe their experiences, because this descriptor better captured the normal day-to-day term used by all involved in the ECB pathway.

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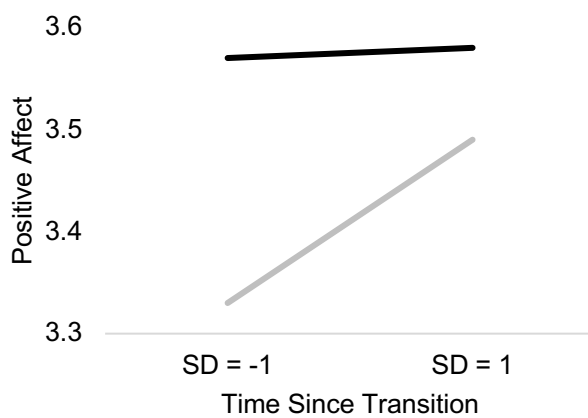
Table 1*Effects of Multiple Group Memberships on Health and Performance*

Outcome Variable	Model Term	Coefficients
Life Satisfaction	Age	.007 (-.051, .065), $p = .815$
	Time	.021 (.000, .042), $p = .047$
	Pre-Transition Groups	.085 (.021, .149), $p = .009$
	Continuity of Groups	.080 (.003, .156), $p = .041$
	New Groups	.199 (.091, .306), $p < .001$
	Pre-Transition Groups*Time	-.003 (-.006, .001), $p = .140$
	Continuity of Groups *Time	-.000 (-.004, .004), $p = .952$
	New Groups*Time	-.005 (-.010, .000), $p = .063$
Positive Affect	Age	.038(.007, .069), $p = .018$
	Time	.013 (.002, .025), $p = .018$
	Pre-Transition Groups	.047 (.013, .081), $p = .007$
	Continuity of Groups	-.008 (-.049, .032), $p = .688$
	New Groups	.104 (.047, .161), $p < .001$
	Pre-Transition Groups*Time	-.002 (-.003, .000), $p = .077$
	Continuity of Groups *Time	.000 (-.002, .002), $p = .807$
	New Groups *Time	-.004 (-.007, -.001), $p = .010$
Negative Affect	Age	-.012 (-.051, .026), $p = .533$
	Time	-.003 (-.017, .011), $p = .645$
	Pre-Transition Groups	-.024 (-.066, .018), $p = .269$
	Continuity of Groups	.020 (-.030, .070), $p = .433$
	New Groups	.008 (-.062, .079), $p = .810$
	Pre-Transition Groups*Time	.001 (-.002, .003), $p = .534$
	Continuity of Groups *Time	.000 (-.003, .003), $p = .887$
	New Groups *Time	.000 (-.003, .004), $p = .914$
Self Esteem	Age	.035 (.007, .064), $p = .016$
	Time	.009 (-.001, .019), $p = .088$
	Pre-Transition Groups	.031 (.000, .063), $p = .050$
	Continuity of Groups	.010 (-.027, .048), $p = .586$
	New Groups	.047 (-.006, .099), $p = .080$
	Pre-Transition Groups*Time	-.001 (-.002, .001), $p = .386$
	Continuity of Groups *Time	-.001 (-.003, .001), $p = .249$
	New Groups *Time	-.003 (-.005, -.000), $p = .035$
Player Performance	Age	.034 (-.014, .081), $p = .161$
	Time	.014 (-.003, .032), $p = .105$
	Pre-Transition Groups	.105 (.052, .159), $p < .001$
	Continuity of Groups	-.003 (-.066, .061), $p = .930$
	New Groups	.037 (-.052, .127), $p = .411$
	Pre-Transition Groups*Time	-.003 (-.006, -.001), $p = .017$
	Continuity of Groups *Time	.002 (-.002, .005), $p = .367$
	New Groups *Time	.000 (-.004, .005), $p = .921$
Coach Performance	Age	-.013 (-.077, .051), $p = .682$
	Time	.019 (-.005, .042), $p = .118$
	Pre-Transition Groups	.108 (.036, .181), $p = .004$
	Continuity of Groups	-.007 (-.094, .080), $p = .873$
	New Groups	.161 (.037, .286), $p = .011$
	Pre-Transition Groups*Time	-.003 (-.006, .001), $p = .183$
	Continuity of Groups *Time	.002 (-.003, .007), $p = .452$
	New Groups *Time	-.005 (-.011, .001), $p = .094$

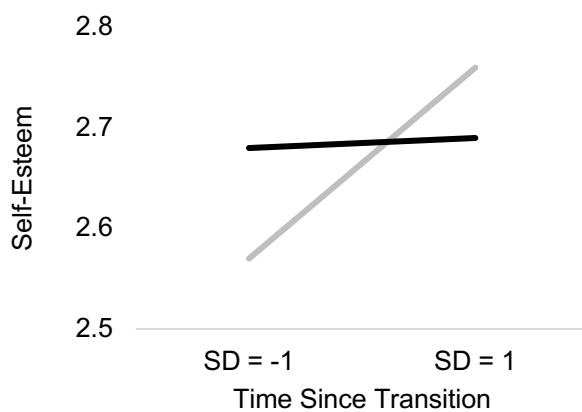
Note: Observations = 449 for all analyses/outcomes, apart from Coach Performance (when observations = 446). Data are presented as model coefficient (95% CI) and p value. Time=time (months) since transition.

Figure 1

Interaction of New Group Memberships and Time on Positive Affect



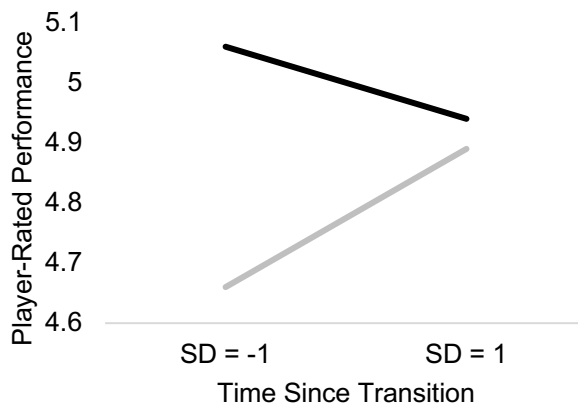
Note. Data based on 449 observations. Black line, greater new group memberships—i.e., one standard deviation above the mean for new group memberships; grey line, fewer new group memberships—i.e., one standard deviation below the mean for new groups memberships. Time is plotted as one standard deviation below and above the mean of time (months) since transition.

Figure 2*Interaction of New Group Memberships and Time on Self-Esteem*

Note. Data based on 449 observations. Black line, greater new group memberships—i.e., one standard deviation above the mean for new group memberships; grey line, fewer new group memberships—i.e., one standard deviation below the mean for new groups memberships. Time is plotted as one standard deviation below and above the mean of time (months) since transition.

Figure 3

Interaction of Pre-Transition Group Memberships and Time on Player-Rated Performance



Note. Data based on 449 observations. Black line, greater pre-transition group memberships—i.e., one standard deviation above the mean for pre-transition group memberships; grey line, fewer pre-transition group memberships—i.e., one standard deviation below the mean for pre-transition group memberships. Time is plotted as one standard deviation below and above the mean of time (months) since transition.