Beyond ‘the’ flow state
Pathways to distinct, optimally engaging psychological experiences in nature-based adventure

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**Abstract**
Flow research has primarily focused on singular optimal state models (e.g., flow, peak experience), often in traditional sport or work contexts. This study investigated a proposed alternative model encompassing distinct optimal experiences (i.e., flow and clutch) via sequential studies across diverse nature-based adventure contexts (e.g., rockclimbing, snowboarding, BASE jumping, white-water kayaking). The sequential explanatory design involved intensity sampling of flow questionnaire scores, followed by semi-structure interviews (Study 1), and inductive-deductive data collection and analysis using the Scanlan Collaborative Interview Method (Study 2). Analysis identified distinct, optimally engaging experiences largely aligned with distinct ‘flow’ and ‘clutch’ states. While both experiences involved an immersive, present moment focus, each state was accompanied by distinct antecedents, characteristics and consequences. Based on these findings, (1) an expanded model of distinct optimal experiences is presented, and (2) implications for
designing diverse forms of optimally engaging experiences across a range of contexts are explored.

Keywords
Flow state; Clutch state; optimal experience; peak experience; psychology; adventure

Introduction
Investigations of flow, arguably the most widely studied and well-developed model of optimal experience, have concluded that flow is a highly enjoyable and motivating psychological state that underpins a range of leisure, artistic, vocational, educational and sporting endeavours (e.g. Habe et al., 2019; Jackson et al., 2023; Nielsen & Cleal, 2010). Csikszentmihalyi (1975) first proposed the ‘flow’ construct to describe the optimal experience of being completely absorbed in an activity after interviewing a variety of artists, workers, and adventure participants (e.g., rockclimbers) who used the term flow to colloquially describe how optimal experiences felt. In addition to a present moment focus, flow is often characterised by feelings of control, distorted sense of time, and complete engagement in the task (Barthelmäs & Keller, 2021). Emerging evidence suggests that more nuanced and differentiated models of optimal experiences may more fully explain the range of optimal states reported in leisure contexts (e.g., Houge Mackenzie et al., 2011, 2013). One such alternative model is the integrated model of flow and clutch states (e.g., Swann et al., 2016). In this model, flow and clutch are conceptualised as two distinct forms of optimal experience; the key distinction is that flow states involve effortless, enjoyable directed attention, whereas clutch states involve effortful attention and physical exertion with enjoyment ensuing after the activity (Swann et al., 2022). The study described herein explored the potential utility of a multiple optimal state model (i.e., a flow and clutch model) for understanding optimal psychological experiences across a range of nature-based adventure activities.

Emerging Models of Optimal Experience: Flow and Clutch Experiences
Mounting empirical evidence has challenged traditional flow models of a singular optimal state (e.g., Boudreau et al.’s (2020) systematic review of flow research). For example, Houge Mackenzie et al. (2011, 2013) found evidence of paratelic (playful) flow and telic (serious) flow experiences in adventure recreation contexts, which were not accounted for in traditional flow models. Paratelic flow was characterised by playfulness, process-orientation, and arousal-seeking, while telic flow was characterised by seriousness, outcome-orientation, and arousal-avoidance. Boudreau et al. (2022) subsequently suggested these proposed flow states were congruent with descriptions of flow and clutch states, respectively.

While evidence of telic flow was identified in the adventure contexts, the conceptually analogous state of ‘clutch’ was initially identified in sport literature (e.g., Swann et al., 2016). In a series of sport-based studies (e.g., Swann et al., 2016, 2017ab, 2022), researchers identified two distinct optimal states: a “letting it happen” state (i.e., flow) and a “making it happen” state (i.e., clutch). In contrast to flow states, which were described as effortless and enjoyable, these researchers found that clutch states were described as effortful and associated with performing well under pressure (e.g., Swann et al., 2017ab). Although clutch states shared some commonalities with flow states (e.g., elevated levels of self-confidence and absorption), other descriptions of clutch appeared
incompatible with traditional flow descriptions. For instance, flow states are typically characterised by feelings of effortless control and the absence of analytical thoughts, whereas clutch states were characterised by efforts to exert control and deliberate analytical thinking (e.g., Swann et al., 2019). People describing flow often emphasised feelings of reduced effort and heightened enjoyment, while those describing clutch reported increased motivation to accomplish an important task at hand and the ability to exert more intense effort (Swann et al., 2019).

Although the volume of evidence underpinning an integrated flow and clutch model of optimal experiences has stemmed from traditional sport contexts, initial data from adventure and nature-based leisure contexts suggests this may be a useful model of nature-based adventure experiences as well. For instance, an initial qualitative study of flow and clutch included a polar explorer and a mountaineer (Swann et al., 2017a). These participants identified flow and clutch as “two different states” (p. 384), with flow likened to being on “autopilot” (p. 387), while clutch was described as being “switched into survival mode” (p. 390). Thus, convergent evidence from rockclimbers (Boudreau et al. 2022) and other adventure recreation participants (i.e., Houge Mackenzie et al., 2011, 2013; Swann et al., 2017a) suggested that an expanded model of optional experiences should be evaluated across a broader range of adventure recreation participants.

**Methods**

A sequential explanatory design was employed. Study one consisted of intensity sampling via flow questionnaire scores of advanced rockclimbers (N=13; 9 men, 4 women; mean age = 36.5 years, SD = 12.2 years), in indoor and outdoor settings, followed by semi-structure interviews. Results informed Study two design, consisting of in-depth interviews (using Scanlan Collaborative Interview Method SCIM; Scanlan et al., 2003) with 20 (N=20; 15 men, 4 women, 1 non-binary; mean age = 35.7 years, SD = 10.7) range of experienced adventure participants (e.g. ski mountaineering, rockclimbing, white-water kayaking, back-country skiing, skydiving, scuba diving, BASE jumping, mountaineering) who were purposefully sampled based on reporting a highly positive, memorable adventure recreation experience within the past year. This interview method clearly delineated inductive (potentially theory expanding data) and deductive (theory [dis]confirming data). Data were analysed using an iterative reflexive thematic analysis approach (Braun & Clarke, 2019) involving all authors.

**Results and Discussion**

Study one (limited to rockclimbers) found that flow states were preceded by the absence of rigid expectations and specific goals, and that concentration felt effortless. In contrast, clutch states were preceded by specific outcome goals, and were experienced as highly effortful. Climbers also reported an increased sense of vigour following flow states, while clutch states were followed by feelings of exhaustion and a sense of accomplishment.

Study two, which expanded on this study, found evidence of these distinct flow and clutch states in a variety of adventure contexts, and participants often characterised flow states as *playful*, while clutch states were serious and *survival* focused. Both optimal psychological states were described as involving a present moment focus, distorted sense of time, and altered sensory awareness.
However, participants reported that *flow states* involved effortless, intuitive, automatic, and enjoyable thoughts and movements, expanded awareness and engagement with nature, creative expression, and heightened and pleasurable sensory awareness, whereas *clutch states* involved high levels of effort, deliberate, precise thinking about bodily movements, acute awareness of specific heightened challenges, which facilitated a narrowed attentional focus (see Figure 1).

![Figure 1. Proposed Conceptual Model of Flow and Clutch Experiences in Nature-based Adventure](image)

The unique *antecedents of flow* included an exploratory or process focus, moderate challenge levels, familiar activities and environments, and a sense of connection to the natural environment. In contrast, unique *clutch antecedents* included extensive preparation, perceived pressure, heightened challenges requiring irreversible commitment, and specific goals. Unique *flow consequences* included an intense desire to repeat the experience, positive emotions (e.g., excitement, invigoration, elation, or serenity), heightened perceptions of performance, and reduced risk awareness, while unique *clutch consequences* were characterised by the absence of desire to repeat the experience, a mixture of exhaustion and relief, a sense of achievement, and increased confidence.

The results indicated that, although flow and clutch are both optimally engaging, highly memorable, ‘extra’ ordinary experiences, traditional models of optimal experiences require expansion and refinement. There appear to be unique antecedents, or pathways, that lead to the distinct optimal experiences of flow and clutch, respectively. In addition, these distinct optimal states engender contrasting immersive experiences and consequences.

These findings have important implications for experience designers across a range of nature based or physical activity contexts. For example, the results can inform different strategies that may be used to design experiences which are more conducive to flow or clutch, respectively. This model could also be used to inform more complex experience design over a single extended
experience, or multiple experiences over longer time frames, in which optimally balancing flow and clutch experiences over time is desired. Distinct pathways towards these unique optimal experiences may also be used be practitioners to adapt experiences to participant groups with diverse compositions and goals.

These initial results and proposed model could be further explored to see if it applies to a broader range of contexts, such as a wider range of leisure, tourism or vocational activities. Fruitful avenues of future research include: (1) identifying potentially distinct optimal experiences (e.g., flow and clutch) across these broader contexts; and (2) identifying unique pathways and practices for experiences designers to facilitate these distinct states in leisure, tourism or vocational activities.

References


